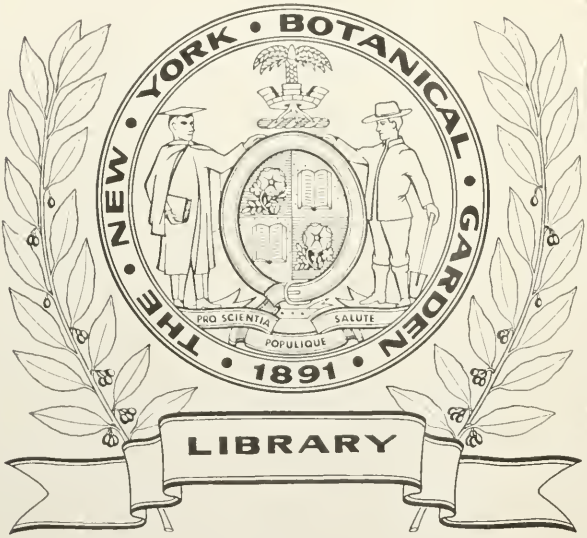
XF
.L64

v. 3
1960



THE

FLORAL WORLD

AND

GARDEN GUIDE.

VOLUME III.

LIBRARY,
NEW YORK
BOTANICAL
GARDEN.

LONDON:
GROOMBRIDGE AND SONS,
5, PATERNOSTER ROW.
1860.

LONDON:
T. HARRILD, PRINTER, SHOE LANE,
FLEET STREET.

INDEX.

Acacia armata killed by winter, 160
Achimenes, culture of, 10
Advantages of association in horticulture, 89
Albion Hall Chrysanthemum Show, 262
Alsophila capensis, 229
Alstrœmeria pelegrina, 12
Alstrœmeria argento-vittata, 130
Alyssum, to keep and propagate, 256
Amaranths for ribbon, 188
Amateur collections of roses, 167
Amateur's greenhouse, plants for, 249
Amateur prizes, 90
Amateur Florist's Guide, 124
Amateur Tulip Society, 147
Americans and gladioli, 11
An invalid's first attempt at gardening, 198
Aniseed tisane, 180
Annuals, culture of, 82
Annuals for bedding, 66, 106
Annuals of 1859, 36
Ants in frames, 183
Apple, Baron Ward, 275
Apples and pears, to preserve, 225
April, reminders for, 85
Aralia papyrifera, 265
Ashton-under-Lyne exhibition of celery, 237
Asparagus, forcing of, 30
Asplenium fontanum, 110
Asplenium Halleri, 110
Asters for masses, 108
Aucubas in town gardens, 16
August, reminders for, 182
Auriculas in April, 85
Australia, horticulture in, 112
Autobiography of a butterfly, 86
Autumn flowering bulbs, 10
Autumn leaves for the toilet, 62
Autumn planting recommended, 189
Azalea indica, 8
Azaleas done blooming, 85
Azalea variegata superba, 9
Azaleas in tiffany-houses, 112
Balcony garden described, 198
Balsams failing, 207
Balsams in beds and pots, 77
Banks, planting on, in wet seasons, 161
Barnsley Floral Society, 238
Barometer, uses of, 233
Barometer, indications of, 240
Baron Ward apple described, 275
Basket plants, 84
Bath Floral Fête, 218
Beaufortia splendens, hardiness of, 160
Bedders for next year, 126
Bedders, their condition this season, 157
Bedders used at the Temple Gardens, 224
Bedding plants and tiffany-houses, 200
Bedding plants at Sydenham, 185
Bedding plants, preservation of, in a cold pit, 196
Bedding roses, 247
Bedding stock, 65
Bedding system, disadvantages of, 142
Bedding verbenas, culture of, 124
Beds of roses, 246
Begonia fuchsioides, 208
Belladonna lily, 87
Bell-glasses in melon culture, 57
Biennial removal of fruit-trees, 2
Bolting, to prevent, in celery, 276
Books and catalogues received, 38, 63, 86, 160, 231, 255, 280
Borage tisane, 180
Border flowers, a few of the best, 157
Border chrysanthemums, 104
Border plants for town gardens, 224
Borders sown with annuals, 106
Bougainvillæa spectabilis, 134, 175
Bouquets, prizes for, to ladies, 219
Bouquet ten-weeks' stocks, 269
Branching pyramidal stocks, varieties of, 269
Briars for budding, 39
Briars, to select for working, 150
Bristol and Clifton Fête, 218
Brixton Amateurs' Society, 117
Brixton Floricultural Society, 164
Brixton Hill Flower Show, 263
Budding the rose, 149
Building act and Paxton houses, 210
Bulbous-rooted chervil, 133
Bulbs for stove and greenhouse, 232
Bulbs for window culture, 232
Bush pear and apple-trees, 2
Cabbage timber, 122
Calceolarias this season, 185
Camellias neglected, 16
Camellias at Vauxhall, 43
Camellias to graft and inarch, 39
Camellias done blooming, 35
Camellias and continental seedlings, 95
Camellia show at Vauxhall, 94
Camellias to be planted out, 184
Camellias for windows, 256
Candle for Waltonian case, 49
Canvas as a repellent of frost, 134
Cape bulbs, 11
Carnation seedlings, 111
Carrion, a destroyer of vines, 74
Cast-iron garden furniture, 100
Catalogues received. See Books
Catlow's Garden and Greenhouse Botany, 20
Cauliflowers on the Dutch method, 88
Cedo Nulli (Mr. Hutt's) of 1859, 123

Celery show at Ashton, 237
Celery, culture of, 244
Celery on light soils, 112
Celery, to grow, on stubborn soils, 246
Celery, to grow, in trenches, 276
Cerastium and lobelia at Sydenham, 186
Chærophyllum bulbosum, 133
Chameleon border, 253
Cheap substitute for an orchard-house, 3
Cheap protections for tender shrubs and fruit-trees, 61
Cheap and beautiful ornaments, 62
Chelmsford Horticultural Fête, 238
Chenopodium and perilla as bedders, 187
Chevreul's laws of colour, 185
Chepstow Flower Show, 218
Chervil, culture of, 132
Chimonanthus fragrans, 47
Chorozemas, culture of, 52
Chrysanthemum for pot specimens, 14
Chrysanthemums for 1860, 80
Chrysanthemums, early, 110
Chrysanthemum culture for specimens, 76
Chrysanthemums for borders, 104
Chrysanthemum societies in London, 93
Chrysanthemum models, 123
Chrysanthemum shows, 1860, 235, 260, 261
Cineraria, culture of, 21
Cinerarias coming into bloom, 85
Cinerarias, new seedling, 96
Citron gourd marmalade, 133
City trees, 252
City smoke and City gardening, 222
Clematis, to propagate, 160
Clerodendron cruentum, 130
Clianthus Dampieri, 159
Clianthus out of doors, 160
Climate of Torquay, 160
Clouds that foretell change of weather, 241
Coke fires, 255
Cold pit, uses of, 168
Colchester exhibition, 236
Colour in garden scenery, 185
Cool conservatory, ferns for, 229
Colerne Horticultural Fête, 218
Composts, to prepare, 53
Common ferns in plaster vases, 174
Construction of vineries, 25
Cornish culture of potatoes, 255
Correas, to propagate, 39
Couch-grass tisane, 180
Crinoline pots, 212
Crocus, culture of, 267
Crystal Palace Flower Show, 142, 166, 219
Crystal Palace geranium, 127
Crystal Palace rose beds, 248
Crystal Palace chrysanthemum show, 260
Cuero guano, 208
Culture of perfumes, 37
Culture of sea-kale, 28
Culture of the strawberry, 31, 33
Culture of chrysanthemums, 75
Culture of Spergula pilifera, 155
Curate's vinery, 4
Curtis (the late Samuel), 44
Cuttings to strike in spring, 65
Cuttings of pelargoniums, to strike, 105
Cuttings of roses, 184
Cuttings in moss, 200
Cyclamen persicum, 87
Dactylis cæspitosa, 112
Dahlias exhibited, 219
Dahlias, Lillyput, 133
Dahlias, list of new, 216, 219
Dahlias of 1860, 236
Damp and shade in planthouses, 162
Dandelion salad, 85
Daventry Flower Show, 238
December, reminders for, 278
Design for a moveable greenhouse, 192
Dianthus Chinensis Heddewigi, 177
Dicksonia antarctica, 229
Digging two spits deep, 16
Dolichos sinensis, 236
Domestic tendencies of gardening, 90
Drenching-board for cleansing plants, 121
Dwarf fruit-trees, 2
Dwarf walls for fruit-trees, 3
Dwarf roses pegged down, 103
Dwarf fruit-bushes preferable to orchard-trees, 162
Dwarf Clarkia described, 191
Early flowering herbaceous plants, 157
Early tulips, list of, 117
East London Floral Society, 220
Eccremocarpus scabra, hardiness of, 160
Effects of stagnant water on plants, 161
Emigration to New Zealand, 184
Emigration to Australia, 112
Encouragement of hybridizers, 43
Ends, reversible, of portable houses, 211
Enemy in the orchard, 7
Erianthus Ravennæ, 112
Ericas done blooming, 111
Eugenia ugni not hardy, 110
Evergreens and roses, 247
Exhibitions, local and other, 163
Exhibitions, management of, 138
Experiments with a slow-combustion stove, 258
Fancy pelargonium, culture of, 104
February, reminders for, 37
Felix Hall Gardens, Kelvedon, Essex, 191
Fern culture, 110, 174
Ferns for miniature rockeries, 36
Finchley and Friern Barnet exhibition, 164
Floral Hall, Covent Garden, 148, 169
"Floral World" Annual Address, 257
Floriculture among the operative classes, 91
Floricultural societies, management of, 234
Floricultural Society, records of, 142
Floricultural societies, 89
Foliage affected by town smoke, 253
Foliage plants for beds and ribbons, 187
Foliage ribbon lines, 188
Forcing sea-kale, 29
Forcing the strawberry, 30
Forest Hill, culture of ericas at, 213
Forget-me-Not, to bloom in February, 160
Frames for protecting trees and shrubs, 97

Free exhibitions of chrysanthemums, 264
Fruit culture on bad soils, 2
Fruit, how to gather, for keeping, 227
Fruit-room, construction of, 226, 272
Fruit-trees for walls, 16
Fuchsia fulgens, 207
Fuchsias, notes on new, 191
Fuchsias for bedding, 108
Fuchsias exhibited, 217
Fungi among roses, 63
Furnishing plants, lists of, 168, 164, 170
Gardeners' Anniversary, Newton, 237
Gardeners' clothing, 47
Gardeners' wages, 17
Gardeners' Royal Benevolent Institution, 165
Garden furniture, 100
"Garden Oracle" for 1861 announced, 231, 254
Gardenias and the fly, 110
"Gardening Book of Annuals," 135, 160
Garden of Horticultural Society, 119
Gazania splendens, 177
Geometric garden, 86
Geometric garden, spergula for, 155
Geraniums of 1860, 128
Geraniums for beds and ribbons, 127
Geranium tuberosum, 64
Geraniums turning yellow, 136
Geraniums used at Sydenham, 187
Geranium, keeping a large, 255
German fruit-room, 273
Gesnerias, culture of, 10
Ginger, culture of, 39
Gishurst compound, 87
Gladioli, 236
Gladioli from seed, 255
Gladioli, properties of, 273
Gladioli in beds, 11
Gloire de Dijon rose, 224
Gloxinias, culture of, 10
Gloxinia tubiflora, 10
Gloxinias, to start, 40
Good work with bad tools, 196
Golden Chain geranium, to propagate and keep, 200
Golden Chain, substitute for, 128
Golden cress, 132
Golden Lotus chrysanthemum, 235
Graffe etouffee described, 59
Grafting the camellia, 59
Grapes, culture of, in trenches, 4
Grape-vine culture, 73
Green ginger, culture of, 39
Greenhouse and vinery combined, 111
Greenhouse bulbs, selections of, 232
Greenhouse construction, 159
Greenhouse heating, 232, 256
Greenhouse orchids, 21, 232
Greenhouse plants, to propagate, 39
Greenhouse vermin, 40
Grieslinia littoralis, 110
Ground temperature of the spring of 1860, 141
Growth of trees in the City, 251
Gum-barrel budding, 151, 256
Gynerium argenteum, 70
Habrothamnus, hardiness of, 160
Hardening newly-struck plants, 66
Hardy bulbs, culture of, 266
Hardy tropical plants, 265
Heating a conservatory, 207
Heating a pit, 16
Heating greenhouse, 40
Heating portable houses, 251
Heights of roses for town planting, 204
Herbaceous border flowers, 207
Herbaceous florists' flowers, 63
High-coloured roses, 246
Highgate Floricultural Society, 163
Hillock culture of the melon, 54
Hollyhocks, selection of, 34
Hornsey Gardeners' Society, 6
Horticultural societies, formation of, 110, 137
Horticultural Society, garden of, 95, 113, 119, 236
Horticultural Society, meetings of, 68, 165, 191, 216, 236
Hospital for bedders, 196
Hot-air chambers of Musgrave's stove, 259
Hot-bed without dung, 48
Hothouses for the million, 160, 209
House for bedding plants, 208
How to kill trees and plants, 190
Hyacinth offsets, 64
Hyacinths at Highgate, 43
Hyacinths, culture of, 266
Hybrid dianthus, 177
Hybrid rhododendrons, 227
Hyde Park display of flowers, 225
Hyssop tisane, 180
Importations of tree ferns, 229
Improvements in the Waltonian case, 49
Indelible tallies, 112
Influence of horticulture on social life, 89
Ismene calanthinum, 64
Isolated beds, planting of, 186
Jones's garden furniture, 86
Judges, responsibilities of, 139
July, reminders for, 159
June, reminders for, 134
Keeping fruit, 225, 273
Kelvedon Horticultural Show, 190
Kensington Gore Gardens, 95, 113, 119, 236
Kew Gardens, planting of, 187
Lasting hot-bed, 48
Late vinery, 111
Lavender, culture of, for distillation, 158
Lawn mowers, 136
Lawns without mowing, 154
Lawn spergula for gravelly soils, 272
Lawton Blackberry, 135
Lean-to greenhouse, heating of, 259
Lecture on the rose, 68
Light-coloured geraniums, 128
Lilliput dahlias, 133
Lilium and amaryllis, 16
Lime-tree caterpillar, 111
Linum grandiflorum, 86
Liquid manure for roses, 136
List of best twenty-four azaleas, 8
Local societies, meetings of, 183
Local societies, their advantages, 137
London gardens and the smoke act, 223

London plane-trees, 251
London roses, 169, 203
Losses among tender plants, 65
Love-lies bleeding for ribbon lines, 188
Maiden's Blush, a good stock for roses, 152
Manetti rose, origin of, 151
Manuring tile for strawberries, 101
March, reminders for, 62
Marigolds for bedding, 67
May, reminders for, 109
Melon culture, open air, 54
Melon culture on dung-beds, 76
Melons, failure of, 184
Merits of new plants, 42
Meteorology a study for gardeners, 233
Mignonette culture, 88
Miniature fruit gardens, 1
Miniature rockeries, 36
Mildew prevented by giving air, 197
Mistakes in the bedding system, 186
Mistletoe, to propagate, 39, 63
Mists indicators of weather changes, 241
Money prizes, 91, 138
Moon a weather indicator, 241
Moss for striking cuttings, 200
Mulch for roses, 208
Mulch, stercus for, 115
Mullein tisane, 180
Musgrave's slow-combustion stove, 258
Names, plants, 40, 64, 208, 232
National Rose Show, 148, 166
Nerium splendens, 12
New pears, 13, 45
New Holland plants, Chorozema, 52
New flower-market, 68
New bedding and border flowers, 122
New roses, list of, and merits, 168
New plants of the season, 191, 216
New fruits, 13, 45, 275
North American ferns, sale of, 160
North Western Chrysanthemum Society, 5
Northampton Agricultural Society, 239
Norwood Chrysanthemum Society, 5
Nosegay geraniums, Beaton's, 127
Notabilia Meteorologica, 1859, 46
Notes of the month, 5, 20
Novelties of 1860, 41, 63
Novelties approved by Horticultural Society, 191
November, reminders for, 256
October, reminders for, 230
Œnothera Drummondii nana, 36, 60
Oiled paper and varnished cotton, 87
Onion, best pickling, 250
Orchard-trees and winter moth, 7
Orchard-houses, portable, 210
Orchard-houses of tiffany, 215
Orchard-houses without glass, 99
Orchids for cool-houses, 232
Orchids, culture of Stanhopea, 242
Oriental plane at Kew and Sawbridgeworth, 252
Ornamental grasses, 112
Oscar strawberry, 169
Out-door melons, 54
Oxalis lobata, 184
Pampas grass, 69
Pansies, to propagate, 111
Paraphine oil for Waltonian cases, 60
Passion-flower from cuttings and by inarching, 39
Paxton's patent plant-houses, 209
Pears, choice sorts, house for, 99
Pears for culture as bushes, 2
Pear trellises, 3
Pear-tree, unfruitful, 43
Pea-hurdles, 136
Pea-sticks superseded, 49
Peat-pots and lumps, 254
Pegging down roses, 103
Pencil for tallies, 112
Pendant ferns for crinoline pots, 214
Pelargoniums, new varieties of, 191
Perfumes, culture of, 37
Perilla nankinensis, 108
Perpetuity of trees, 52
Perpetual flowering roses, 247
Petunias, list of, for bedding, 128
Petunia, the Queen, 122-8
Picotees of 1860, 191
Pickling onion, the best, 250
Pillar roses and roses in Fifeshire, 199
Pink, cultivation of the, 121
Pipings, how to make, 121
Planting trees, etc., 40
Planting a north-east angle, 88
Plants for baskets, 84
Plants that thrive in tiffany-houses, 99
Plant-cleaning, board for, 121
Plants which have endured the winter at Torquay, 160
Planting a fern-case, 208
Planting trees and shrubs, 189
Platanus acerifolia and varieties, 252
Platycerium alcicorne, 64
Plectranthus picturatus, 136
Plumbago capensis, 63
Polygala tisane, 180
Pompone chrysanthemums, 75, 123
Portable plant-houses, 209
Portable furnaces, 258
Potatoes, sprouting of, 39
Potato culture, safe code of, 84
Popular names of plants, 160
Portable greenhouse described, 267
Preserving green peas, 208
Preparation of composts, 53
Prince's Feather as a bedding plant, 188
Prices of patent plant-houses, 212
Profitable gardening, 28, 132, 244, 275
Propagation of roses from eyes, 153
Properties of the cineraria, 23
Prune tisane, 181
Public-house meetings injurious, 90
Purple orach, 255
Purple foliage plants, 187
Pyramid trees on walls, 3
Pyramid chrysanthemums, 261
Pyrethrum atrosanguineum, 122
Quick growth of roses, 150
Rainbow planting, 274
Rainbow, prognostications of, 241
Ranunculus, culture of, 267

Reasons why roses fail in London, 203
Relative duties of gardeners and their employers, 17
Reminders for January, 15; February, 37; March, 62; April, 85; May, 109; June, 134; July, 159; August, 182; September, 206; October, 230; November, 256; December, 278
Removing plants in flower, 87
Rhododendrons for garden decoration, 227
Rhododendrons, greenhouse, 112
Rhubarb forcing, 30
Ribbon lines of annuals, 106
Rice-paper plant, 265
Rivers's fruit culture, 1
Rose budding-scoop or separator, 173
Rose fenee, 232
Rose, lecture on the, 6
Rosery, arrangement of, 248
Roses in London, 88
Roses for the neighbourhood of towns, 103
Roses blooming to the ground, 103
Roses for the million, 149
Roses mildewed, 160
Roses on their own roots from eyes, 153
Roses, list of best, for exhibition, 166
Roses, queries respecting, 184
Roses attacked by fungi, 207
Roses under bell-glasses, 204
Roses shown in September, 220
Roses at the Temple Gardens, 223
Roses for pots in town, 232
Roses for town gardens, 255
Roses, late blooming, 246
Royal Botanic exhibitions, 96, 116, 145, 166
Rules for societies, 170
Russian violets, 110
Rustic furniture in iron, 100
Sagina procumbens, a turf-forming plant, 156, 271
Sainfoiu, beauty of, 38
Salads, a few good ones, 132
Salsafy, inquiry for, 6
Salter's list of chrysanthemums, 81
Sandy soil, to improve, 64
Sea-kale, culture and forcing, 28
Season, severities of the present, 140
Seed-bed for celery, etc., 245
Seeds to send abroad, 16
Seedling pinks and pansies, 110
Selaginellas to cover crinoline pots, 214
Selaginellas for glass shades, 36
Select greenhouse plants, 11
Select roses, notes on, 168
Selection of roses for culture in towns, 205
Selection of hybrid rhododendrons, 228
Selection of greenhouse plants, 242
September, reminders for, 206
Shading orchard-house, 88
Shady border, to plant, 64
Shady greenhouse, 183
Shepton Mallet Flower Show, 237
Shrubs to plant under trees, 231
Silvery foliage bedders, 68
Siliceous stone, Ransome's, 256
Sir Joseph Paxton's garden, 210
Soap waste for bottom-heat, 48
Societies, rules for, 162, 170
Soil of London gardens, 204
Solanum capsicastrum, 111
South Essex Chrysanthemum Society, 5
South Metropolitan Tulip Show, 147
Specimen pelargoniums, to train, 104
Specimen plants, lists of, 163, 164, 170
Spergula pilifera, 145, 271
Spergula species, 156
Spergula saginoides, 271
Spot in pelargoniums, 136
Spur pruning, 111
Standard dwarf fruit-trees, 1
Standard pompones, form of, 124
Standard roses in London gardens, 203
Standish house and screens, 79
Stanhopea species and culture, 242
Stars indicators of weather changes, 241
Stationers' Hall plane-trees, 251
Stephanotis floribunda, 40
Stercus as a manure, 115
Stocks for roses, the best, 151
Stocks, report on, grown at Chiswick, 268
Stocks to bloom in spring, 98
Stoke Newington Chrysanthemum Show, 263
Stove plants, 134-6
Stove treatment of tree ferns, 229
Stove plants for bedding purposes, 188
Strawberries, description of best, 31, 33
Substitutes for Flower of the Day, 86
Suckers of the briar, uses of, 150
Sulphur a preventative of mildew, 197
Sulphate of ammonia manure, 63
Summer propagation of bedding plants, 127
Surface roots to encourage, 1
Sutton's "Farmer's Manual," 86
Sweet Williams, 169
Sydenham Horticultural Society, 96, 218
Sydenham Horticultural Society, rules of, 170
Tallies for plants, 112
Tallies for pot plants, 37
Tasteful effects in garden colouring, 186
Temperatures for propagating, 66
Temple Gardens and London parks, 222
Tender annuals, to grow, without heat, 107
Ten-weeks' stocks, varieties of, 269
Tests of the worth of novelties, 42
Thermometer scales, 40
The late Samuel Curtis, F.L.S., 44
Tiffany-houses, 79, 92, 99, 136, 214
Tisanes, 178
Tomatoes in pots, 23, 184, 110
Tom Thumb tropæolum, 36,
Tomtits in orchards, 7
Tomtits in gardens, 7 60, 78
Torenia Asiatica, 131
Tower Hamlets Chrysanthemum Society, 5

Town gardens, 16
Town sewage, value of, 148
Tomatoes, culinary uses of, 230
Towcester Floral Fête, 216
Tower Hamlets Floricultural Society, 221
Transplanting, hints on, 189
Tree ferns, new, exhibited, 142, 228
Tree onion, culture of, 250
Trees in the City of London, 224
Tritoma uvaria, 11
Tritonia aurea, 11
Tropæolum Garibaldi, 236
Tropæolum Jarratti, 111
Trowbridge Floral Society, 217
Tulips, early, list of best, 118
Tulip shows in London, 147
Tulip bed under tiffany, 215
Tulip, culture of, 266
Turf-forming plants, 156
Turf-pit, uses of, 197
Turf plant for sandy soils, 272
Twilight indications of the weather, 241
Uses of the cold pit, 268
Vallota purpurea, 14
Variegated periwinkle, etc., 231
Varnished cotton for protecting, 61
Vases of plaster, to render durable, 174
Varieties of platanus, 252
Varnished cotton as a protecting material, 97
Vauxhall nursery exhibition, 94
Variegated-leaved geraniums, 128
Vegetable oyster, 6
Ventilation of Paxton houses, 209
Ventilation of tiffany houses, 214
Verbena, culture of, for bedding, 124
Verbenas, list of, for various purposes, 126
Verbenas, new, 122, 170
Vinery, a cheap, 4
Vine borders and planting, 75
Vine on dry soil, 13
Vines in curate's vinery, 111
Vineries, to build and plant, 25
Vines, swelling fruit, 183
Violet culture, 110
Waltonian cases, 40, 49
Waltonian case, heating, 87
Wardian cases, mildew in, 256
Wallflower leaved stocks, 269
Wall plants for open air and greenhouse, 256
Waterproof garments, 47
Weather of 1859, 46
Weather of 1860, 139
Weather prognostics, 240
"Weeds at a premium," 33
Wellington Nursery, St. John's Wood, 117
Wellingborough Flower Show, 239
Wet seasons, to avoid the evils of, 161
Wet season and the bloom of roses, 182
Wild flowers, prizes for, 217
Wind an indicator of weather changes, 241
Window greenhouse, 86
Winter gardening, houses for, 99
Winter mouth described, 7
Winter stocks, 98
Wintering strawberries, 31
Wire hurdles for peas, 49
Wire pots for ferns and ericas, 213
Wood leopard moth, 46
Wool manure, 115
Working classes and floriculture, 91, 93
Worms in potting compost, 183
Yellow-fl. annuals, 36, 67
Yellow roses, 68, 168
Yellow, use of, in garden compositions, 185
Zephirin Gregoire Pear, 45
Zeuzera æsculi, 46

THE

FLORAL WORLD

AND

GARDEN GUIDE.

JANUARY, 1860.

MINIATURE FRUIT-GARDENS are as popular as Orchard-houses, and for the idea of both we are indebted to that father of English fruit-culture, Mr. Rivers, of Sawbridgeworth. It is true, the culture of hardy fruits on pyramid and bush trees is not new; but no one knows how long we might have remained content with very imperfect developments of the art of constructing a *multum in parvo* fruit-garden, had not Mr. Rivers, with the truly English spirit of perseverance that belongs to him, taken the task in hand, and accomplished it with practical regard to every detail. The "Miniature Fruit-Garden" has attained to an eighth edition, and the results of its success as a book are a vastly increased production of the best fruits in districts where the elements were already favourable, and the successful prosecution of fruit-culture in districts where, on the old-fashioned plans, it was hitherto all but impossible.

One of the chief merits of the work,* above and beyond the intelligible code laid down, is the careful consideration shown for the possessors of small gardens with unfavourable soils, which we all know are sufficiently plentiful throughout the country. The first point insisted on is to keep the roots of the trees near the surface, and to multiply those surface-roots by annual or biennial removal. In wet soils fruit-trees are apt to canker through sending their tap-roots down to the moist substratum, and in dry soils the surface-roots are often injured by drought, and the trees cast their blossoms without setting freely through leanness of constitution. The cultivation of the ground among standard trees is another source of injury, for the spade destroys the surface-fibres, and so compels the tree to live on roots that in no way promote its fruitfulness. To bring the trees fully under control, we must grow them as bushes; they then occupy a small compass, come quickly into bearing, are easily lifted and root-pruned, can be supplied with a sufficiency of suitable soil—because requiring but

* The "Miniature Fruit-Garden; or, the Culture of Pyramidal and Bush Fruit-Trees." By Thomas Rivers. Eighth Edition. Longman and Co.

little—where the general soil of the place is unfit for them, are easily protected when in blossom, ripen their fruit earlier and more perfectly through being near the earth, and in the enjoyment of the warmth radiated from it; and, not least of all, a large variety may be cultivated in a garden which affords room for but very few standard trees. To the majority of amateur cultivators, a dish of pears at command every month in the year is preferable to a glut at one particular season; and with bush-trees there is no shading of the ground, and hence, in that respect, the cultivation of flowers is in no way interfered with.

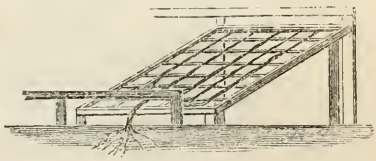
Mr. Rivers does well in giving prominence to the pear as the best of fruits for culture in small gardens. All the most valued varieties do well on the quince stock, which renders them accommodating in their habit, and by their moderate growth upon it facilitates the process of biennial removal, on which, in a great measure, will depend their success when grown as pyramids and bushes. But the extreme beauty of dwarf bushes when furnished to within a few inches of the ground, and kept regular by a judicious course of summer pinching, is an additional recommendation of the quince as a stock for small gardens, where such trees may be grown on well-kept lawns, and be as much valued as ornaments as they are for their plentiful production of fruit, and the interest arising out of their management. Beurré Diel, for instance, has foliage almost equal to that of the camellia, and a regular style of growth such as scarcely needs to be interfered with either by the knife or finger-nails, when subjected to a regular process of lifting, and the removal at such times of all tap-roots. Among the varieties enumerated by Mr. Rivers as especially ornamental are the following:—Baronne de Mello, Duchesse d'Angoulême, Urbaniste, Beurré Hardy, Doyenne Robin, White Doyenne, Louise Bonne of Jersey, Passe Colmar, Susette de Bavay, Bellisime d'Hiver, Zephirin Gregoire, Beurré Leon le Clerc, Délices d'Hardenpont, Prince Albert, and Bergamotte d'Esperen. Easter Beurré, as a bush in full bloom, is one of the most cheerful objects to be found in a garden, and indeed there are very few of the valued varieties of hardy fruits, especially pears, plums, and cherries, that are not highly ornamental when treated in the miniature fashion.

The objects sought by regularly lifting and replanting are the encouragement of a plentiful growth of surface fibres and the checking of all tendency to a gross production of wood. So far from injuring the trees, if performed early in the season, say at the end of October or the first week in November, they make fresh roots at once, and instead of starting away next spring in the production of new timber, the greater part of the blossoms set if protected, and it becomes necessary to thin the crop to prevent exhaustion of the trees. If the soil is of a chalky or otherwise ungenial nature, a little good loam may be chopped up with turf, and the hole filled with the mixture. Black moor earth, such as is often met with in low situations, near rivers, may be rendered suitable by being laid up in a ridge and covered with one-eighth part of unslacked lime, and will be fit for use in five or six weeks. Burnt earth and leaf-mould is another good mixture to improve such moor earth, and in exhausted soils leaf-mould, sand, and a little rotten manure will considerably improve the staple as a compost.

Another plan adapted to gardens in bleak situations is to plant the trees against walls, not as espaliers, but as pyramids, or bushes cut flat on one side, and at just sufficient distance to allow of a circulation of air behind

them. Against a boarded fence such trees soon come into bearing, and instead of nailing them in they are allowed to make breast-wood, which is kept regular by pinching, and a larger surface is thus secured for the production of fruit-spurs, and the trees can be as conveniently root-pruned as in the open quarters. At five feet apart these half pyramids would give greater variety, a greater aggregate produce, and come into bearing earlier than standards at fifteen or twenty feet apart, which will continue to extend themselves for years before producing a single sample of their fruit. But the prettiest of all the suggestions in this valuable work is one for the culture of pears on trellises under glass, which gives all the advantages of an orchard-house without one of the small difficulties that attend the culture of the fruit-trees in pots. Mr. Rivers says :—

"About ten years since a very ingenious method of growing peaches and nectarines on trellises, over which were placed moveable glass lights, was invented by Mr. Bellenden Ker. In warm and sheltered gardens this mode of culture answers very well for peaches, but in cool climates there is not day-heat enough stored up, as in houses, to act upon the fruit. Cheap orchard-houses are, therefore, to be preferred to these cheap trellises for the above kinds of fruits, unless the garden be small and much sheltered. Soon after I had built my trellis for peaches, it occurred to me that the system applied to pear-culture would do well, and so I built a trellis sixty feet long and seven feet wide; on this I planted upright espalier pears on quince stocks. Here is a section of this trellis, and also

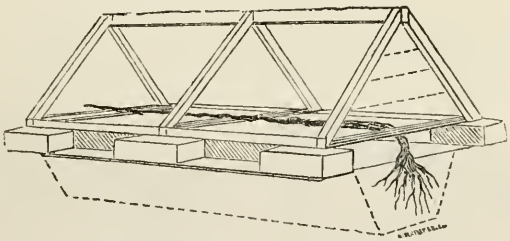


a front view of a pear-tree trained to it in the upright method. My trellis was planted eight years ago, and has now on it twenty fine trees, about ten years old, and in full bearing. They were planted three feet apart, as it was my first experiment, and are now a little crowded; four feet apart will be found the proper distance. I have never seen anything more interesting in fruit-culture than this trellis covered with pears, for, owing to its being near the ground, the radiation of heat and moisture gives the fruit a size and beauty rarely seen even on walls. The lights should remain over the trees till the beginning of July, and then be removed, suffering the fruit to ripen fully exposed to the sun and air. It seems that the glass over the fruit in its young state serves to develop its growth in a remarkable manner, for rarely is a spot seen on pears grown on these trellises; they have a clear, beautiful appearance, much like those grown in the warmer parts of France. I ought to add, that in cool climates such as the north of England and Scotland, the lights may be suffered to remain on till the beginning or middle of August."

After describing the culture of fruit-trees on dwarf walls, and the management of pyramid and espalier pear-trees, Mr. Rivers treats of the apple, plum, and cherry at length, showing how, in each case, the greatest variety may be collected in a very small garden, made as manageable as trees in pots at four feet apart, and rendered productive of fruit of the

highest quality in a degree far more profitable by comparison, than by orchard and garden standards. We cannot now go into the details on this interesting subject further than we have done, but here is an account of a novel and ingenious contrivance called the "Curate's Vinery," the invention of the celebrated Sigma. The extract needs no comment, and we hope will suffice to prove to all fruit-growers who have not yet obtained the "Miniature Fruit Garden," that until they do so they will be behind the age:—

"When the site is determined on, a trench should be dug, two feet wide at the surface and fifteen inches deep, sloping on each side to the bottom, which should be six inches wide; the bottom must be paved with tiles, placed lengthwise, and the sides lined with slates called Duchesses, also placed lengthwise. On each side of this trench, on the surface of the soil, a row of bricks must be placed, two inches apart end from end, leaving spaces between each brick two inches wide—these are for ventilation. On these two rows of bricks the roof is to be placed, which should be a ridge of the following dimensions:—Two feet six inches wide at the bottom, and fifteen inches deep from the centre to the apex.



"It should be made in lengths of seven feet, two of which, placed end to end, form one vinery fourteen feet long. Each length should be glazed with four pieces of glass; and as each sloping side of the ridge is twenty inches deep, four pieces of glass, about twenty inches square for each side will be required. The two outer ends must be closed with board: at one end a notch should be cut in the board to admit the stem of the vine, which should be planted outside, so that its stem is on a level with the surface of the soil outside. The soil the vine is planted in should be well stirred, two feet deep, over a space six feet square, and enriched with rotten manure and what are called one-inch bones, or "bone dust." The vine when planted should be introduced and suffered to grow, as in a common vinery, till it reaches the end. Pruning on the spur system is the only method to be followed. To support the vine in the centre, pieces of slight iron rod should be placed across the furrow, two feet apart, resting on the surface outside; to these the stem of the vine should be fastened, so as to be under the centre of the roof. The bunches of grapes will thus hang in the centre of the furrow, and owing to the radiation of heat from the slates and tiles, they will ripen well. I need scarcely mention that in pruning, either in winter or summer, the two lengths of ridge forming the roof must be taken off and replaced when the operation is finished. Owing to the moisture from the soil, red spider but rarely

makes its appearance; but it will be a sure preventive if flowers of sulphur are kept thickly sprinkled on the slates and tiles during the months of June and July. It is not only for vines that these strictly called ridge-and-furrow vineries are adapted—pears on the quince stock, and peaches and nectarines, all cultivated as closely pruned pyramids, may be grown in them; the latter would require to be lifted annually in November, to keep down excessive vigour. A seven-feet length, closed at one end, should be appropriated to one tree, the open end towards the root."

NOTES OF THE MONTH.

Norwood Chrysanthemum Society, *Nov.* 15.—The exhibition took place in the Working Men's Institute, Lower Norwood, and was largely patronized by the gentry of the neighbourhood. Among the successful exhibitors were Mr. S. Miles, gardener to Miss Pering, Lower Norwood, who showed a good Aurora and Cedo Nulli; Mr. Sears, of Camberwell; Mr. J. Hayes, gardener to O. J. Jones, Esq., Tulse Hill; Mr. Parker, Lower Norwood; Mr. W. Parker, gardener to F. Doulton, Esq., of Dulwich; Mr. Webb, gardener to H. Walmsley, Esq., Clapham Park; Mr. Harper, gardener to F. Bennett, Esq., Tulse Hill; Mr. Fletcher, of Kennington; Mr. Lewis, Mr. Taylor, and Mr. Knight. Mr. Webb gained the first prize for blooms of Queen of England, Astrolabe, Vesta, and Plutus. In the centre of the hall was a large gourd, grown by Mr. Wood, gardener to W. Gilpin, Esq., of East Sheen, and exhibited by Mr. Dore. It weighed 260 lbs.

Tower Hamlets Chrysanthemum.—At this excellent exhibition the principal exhibitors were Messrs. Vile, How, Fisher, Courcha, Forsyth, Stonestreet, and Farmer. Mr. Courcha exhibited a half-standard Zebra, with 300 blooms, and good foliage down to the pot, without stick or tie. Madame Roussillon was shown very tastefully trained. Mr. Broome, to whom was entrusted the arrangement of the room; took a van-load of plants for decoration. Mr. Morgan sent three pyramidal plants, all handsome. More than 1700 visitors were present, and the show was in every way satisfactory.

South Essex Chrysanthemum.—The advantage of this show coming after the rest was, that the flowers were in much finer bloom, and the exhibitors were enabled to allow them to open without using fire heat, which was much resorted to in preparing for the earlier shows, and, of course, to the injury of the flowers, which are apt to come untrue in colour, if assisted in any way, except by mere protection from wind and frost. The best pompones came from Messrs. Whitbread, Lucas, Scarlett, Harbott, Brown, Clarke, Browne, Salomon, and Bunney. Messrs. Shipman, Anderson, Duncombe, Johnson, and South also exhibited creditable specimens. There was a novelty in the shape of a design for a garden in moss and cut blooms of pompones, by Mr. Bunn; and Mr. Wilkinson, of Bow, exhibited a collection of the newest varieties, not for competition.

North Western Chrysanthemum.—This exhibition took place in a room under one of the railway arches of the North London Railway, and was in no way remarkable for excellence. The place was unsuitable, and the flowers had to be viewed by gas-light. Local societies should depend on the growers of the locality, or what interest is there in their exhibitions? At this show the best contributions were from the growers of Stoke Newington and East London; and the plants, excellent as plants, were those we had already seen elsewhere. Such exhibitions must be beneficial, as providing a source of agreeable recreation and useful instruction, even of *réchauffés* of previous gatherings; but they will not bear criticism, or call forth words of praise, in

the public journals. We hope the North Western Society will depend upon its own members next year.

Hornsey Gardeners' Mutual Instruction, *Dec.* 7.—The members of this society assembled at the Infant School Room, Hornsey, to hear a lecture by Mr. Shirley Hibberd, of Stoke Newington, on the "History and Cultivation of the Rose." The chair was occupied by Robert Richmond, Esq., supported by many of the neighbouring gentry. Mr. Hibberd briefly sketched the history of the rose from the earliest times to the peace of 1815, when, he said, the first of the great French rose-gardens was laid out by M. Vibert, and the improvement of the rose, as a florist's flower, commenced in earnest. The great majority of show varieties had been raised in France, during the past forty-five years, by MM. Vibert, Laffay, Hardy, Deprez, Prevost, Lacharme, Margottin, Guillot, Granger, and a few other professional and amateur growers. The lecturer enumerated the best roses raised by each, and gave a few historical memoranda of such roses as Aimée Vibert, Jules Margottin, Géant des Batailles, Great Western, and others, tracing them to their parentage, and indicating, also, the varieties which had proceeded from them. The seedlings of Géant des Batailles, he said, were sufficiently numerous to constitute a rich collection of extraordinary roses, and they included Lord Raglan, General Jacqueminot, Duchess of Norfolk, Evêque de Nîmes, Louis Chaix, and others of the crimson section of hybrid perpetuals. Passing from the varieties the lecturer proceeded to the subject of culture, giving an epitome of the treatment of the rose on loam, sand, clay, chalk, and peat, with hints on the selection of varieties, and the management of stocks, as well as the improvement of unsuitable soils. He then treated of propagation, and, by the aid of a black board, explained the various modes of budding on the Briar, Manetti, Celine, and other stocks. His description of the method of striking roses from eyes, in the fashion of a grape vine, was particularly interesting. The buds are to be taken at the same season, and in the same manner, as for budding on the Briar, that is from half-ripe wood, the buds of which have not started. The leaf is not to be removed, nor is the wood to be taken out of the shield; but every bud with its attached wood, bark, and leaf, is to be planted in pure sand, with a little peat under it for the first roots to work into, and then covered with a bell-glass. In this way scarce roses would be multiplied rapidly. The Rector of Hornsey proposed a vote of thanks, which was carried by acclamation.—*Gardener's Chronicle.*

THE VEGETABLE OYSTER.

Several years ago a friend of mine brought from North-west America some seeds of a vegetable well-known and cultivated in those parts, which he said were given to him by a native chief, and which he called the Vegetable Oyster. I sowed these seeds, and found the root most agreeable in flavour, and justifying its name from its close resemblance to the flavour of the oyster. It had the appearance, when in bloom, of the salsafy, of a deep lilac colour, and the seeds were like those of the salsafy, or Tragopogon porrifolium. At length I lost the plant, through the depredation of the birds in carrying away the seed. This I regretted, as I much liked the vegetable. Some time since I wrote to the editor of ———, and urged him to endeavour to obtain seeds of the plant, but never heard from him upon the subject. I grew the English salsafy afterwards, but it had not the nice flavour of the foreign root.

I should be obliged if you, or any of your readers would inform me if this esculent is known and procurable in England, if not, I would urge the obtaining of it from North America, as I am sure it would be acceptable to many. It should be sought for under the name of Vegetable Oyster, as it has an essentially different flavour from that of the salsafy.

Inquirer.

AN ENEMY IN THE ORCHARD.

The little winter moths are the apple-grower's worst insect enemies, and the most difficult to be got rid of, as the caterpillars are not seen until their ravages give evidence of their existence. The female moth deposits her eggs in the tiny buds, and, by the time they are hatched, the tree puts forth its leaves, only to be stripped by the larvæ which they nursed. The year 1855 was noted for the unusual multitude of these insects. Their geographical distribution seems to have made them habitats of nearly every district in England.

In some places they appeared in such vast numbers that the apple and plum crops were totally destroyed; and many of the sufferers, who were unacquainted with their little active enemies, attributed the failure of their apples to the blight. Some of the caterpillars are covered with minute black hairs, which come off with the slightest touch, while others are of a light green, with pale stripes down the sides. They work together in families or groups, and envelope themselves, as well as the surrounding foliage, in their silken webs, and soon make green leaves yellow and branches bare. They then proceed to another branch and pitch their tent, but, being now older, the leaves are entirely demolished before they quit their station. In this way they continue their depredations until they attain their full growth, when they drop to the earth, bury themselves, and then change to chrysalids, in which stage they remain until the following spring, when they burst their crusty shrouds and come forth perfect moths, ready to colonize every orchard with millions of their devastating progeny.

There appears to be no sovereign remedy for the extirpation of the caterpillars when once they have ensconced themselves amongst the foliage; but several plans have been suggested to prevent the female gaining access to the branches, as she has but short rudiments of wings, and consequently cannot fly. One of these plans is to place troughs of puddled clay in the earth around the trunks of the trees, and to be kept full of water. Another is to paint the trees with coal-tar. Each of these plans is good of itself, and I have no doubt but what the end aimed at would be attained, as the moth could not pass over the water, neither could she get over the sticking difficulty which the tar would offer in her attempting to climb the tree to fulfil her mission of propagating her species.

The first of the above plans would entail more time and expense, perhaps, than parties would wish to bestow, and it is very questionable whether the latter one would not be injurious to the trees; and, therefore, in the absence of either, the moth finds her way up to the branches, lays her eggs, and in due course the larvæ appear as numerous as ever, providing a *wet winter* (which is very destructive to insects in general) had not cut short the career of many of the old females. However, there is yet a remedy that may be resorted to, by which the "enemy in the orchard" may be attacked and repulsed. It is simply this—leave *it* alone! Leave alone the Tomtits! Do not molest them further, and they will clean the trees for you! Set your face at once against destroying them yourself, or in being accessory to the deed. The larvæ of which we speak is the chosen food of these busy harlequin-like little creatures, and when that food is in its greatest plenty Tommy is ever on active service. But, in localities where there are "*sparrow clubs*," the winter moths are sure to find an unmolested home, in spite of what "injured" man may do to prevent it. For instance, in Eversham, Kent, where prizes are awarded for heads of tits, sparrows, etc., *Cheimatobia brumata* committed sad havoc among fruit-trees last year. The gardens in that neighbourhood are estimated at 1200 acres, mostly planted with plum-trees, which, in 1858, gave promise of one of the finest crops on record; but, long before the fruit came to maturity, the trees were attacked by the larvæ of the winter moth, and in such prodigious numbers as not to leave a tree unmolested; and it is supposed that, out of the 1200 acres, not more than 300 were saved. Some of the market-gardeners must have suffered very seriously on this occasion; but it is to be hoped that it opened their eyes to the folly of being instrumental in bringing that loss upon themselves by encouraging the wholesale destruction of their *real friends*, the Tomtits. Let them reverse that cruel practice, and give the experiment a trial or two. It is worthy their consideration, and of every enlightened mind, for it appeals to their humanity.

Michael Westcott.

High Street, Wells.

AZALEA VARIEGATA SUPERBA.

The Azalea Indica is no whit behind the most highly-prized of florists' flowers in the exquisite perfections of form and colour that have been obtained by patient and skilful hybridization, and among the most successful breeders we may place, first of all, Messrs. James Ivery and Son, of Dorking and Reigate, Surrey. The beautiful variety *Variegata superba*, here figured, is one of a set of six now being sent out for the first time, and which have been described in the recent issue of the Garden Oracle. These new and splendid varieties are understood to possess every desirable quality, in addition to the exquisite beauty and novelty of their flowers. They are good growers, and most abundant in their habit of blooming, and require only the ordinary treatment given to others of the tribe in greenhouses and conservatories. Whether on their own roots, or grafted, azaleas are among the easiest to manage of all high-class decorative plants. The principal thing to attend to is to secure fresh turfy-peat and well-rotted turf from a fat yellow loam, to give three-fourths peat, one-third of the rotted turf, and plenty of silver-sand and sharp grit. The routine culture closely approximates to that of the camellia, and they take heat as kindly, and bear low temperatures quite as patiently. Liberal syringing when in growth, and a thorough rest to ripen their wood, will, with careful potting, secure an attractive seasonal show of a class of plants that afford an almost endless variety of colour in bold tints and intermediate shades. As the azalea will shortly be an object of interest at all the leading exhibitions, we have much pleasure in introducing to our readers what we believe will be the flower of the season. *Variegata superba* is a variety which strikes the eye of the connoisseur by its beautiful markings and the successive gradations of tone, from palest amber to deep salmon-pink on a pure white ground. The form is in every way equal to the Beauty of Reigate, which in habit this closely resembles. The colouring is richer than the old variegata, especially in the upper petals. Another good quality is, that it blooms late, and so serves to prolong the season of this charming family of plants. The following selection of the best varieties has been made with a conscientious desire to furnish purchasers of azaleas with a guide to a selection of those which afford the greatest variety of colours, and the most perfect flowers in each section:—

Admiration (Ivery), fine white, with large flakes of carmine, fine form.

Barclayana (Ivery), fine large white, striped and flaked with rosy-purple; one of the best.

Beauty of Reigate (Ivery), white, deeply spotted with carmine, splendid form.

Chelsonii (Knight and Perry), shaded orange-scarlet, free bloomer.

Crispiflora (Standish and Noble), rich rosy-lake, very distinct, a fine late variety.

Criterion (Ivery), splendid large salmon-pink, edged with white; one of the finest and most distinct in cultivation.

Distinction (Ivery), rich salmon, margined with white, upper petals spotted with crimson; great substance.

Duc de Nassau (Mardner), rosy-purple.

Flower of the Day (Ivery).

Gem (Ivery), very deep rich salmon, splendid form and substance; one of the very best.

Holfordiana, rich rosy-purple, large and fine.

Iveryana (Ivery), fine large white, striped with rose; one of the very best.

Juliana (Knight and Perry), orange-scarlet, deeply spotted, fine form; one of the best when well grown.

Magnificans (Ivery), large white, fine shape.

Miltonii (Frost), rosy-lilac, fine form, large.

Model, bright rose, fine.

Perryana (Knight and Perry), orange-scarlet, fine form; one of the best.

Rosy Circle (Ivery), deep rose, fine form and substance, a perpetual kind; one of the very best.

Sir Charles Napier (Kinghorn), pink, large and fine.

Stanleyana (Davies), rosy-scarlet, fine form.

Standard of Perfection (Epps), rose, fine form.

Trotteriana, brilliant reddish-purple; one of the best.

Variegata, salmon-pink, with white margin, distinct and fine.

Variegata superba (Ivery), an improved variegata.

S. H.

AZALEA VARIEGATA SUPERBA.

THE CULTURE OF ACHIMENES, GLOXINIAS, AND GESNERIAS.

As these three species are so nearly related with regard to treatment, it is unnecessary to treat each separately; what is required for one, does for the others. At the present time they should all be comfortably stowed away, for their season of rest, in a dry place. A shelf fixed in a fire-house is very suitable, or they may be put, with their sides turned up, under a stage. If in the former, they will require watering a few times to prevent their getting shrivelled. Let them remain till the beginning of March, when put them in a warm house near the glass, to prevent them drawing. It is a plan with some to part them after they have started; others, directly they are removed from their winter-quarters: the latter I prefer. For the compost, use loam, peat, and decomposed dung, in equal parts, with a sprinkling of silver-sand. Use pans or pots with wide tops, and leave nearly an inch for mould to cover them. There is nothing to come up to a pit to grow them advantageously, made either with tan, dung, or leaves; the latter is preferable, being a nice, sweet temperature. Use the syringe well for two purposes; firstly, it tends to promote vigour, also it keeps the thrips in check, which do great havoc to achimenes in eating the coloured surface of the blooms. When they are in bloom it must be left off. Gradually raise the heat up to May, to 70° by day, and 60° by night. When they are well up in bloom, remove them to a more conspicuous place. A few sorts of achimenes I will quote, which are very good, and a nice distinction:—Ambroise Verschaffelt, Longiflora major, Margaretta, Picta, Patens, Meteor, Sir Treherne Thomas, Leipmanni, and Eeckhautei. In the shape of new sorts there are eight kinds of hybrids raised by Mr. Breeze, which are in the possession of the firm of the Vauxhall Nursery, who highly recommend them for autumn and winter blooming, the names of which are as follows:—Adonis, Comet, Aurora, Denton Beauty, Delicate, Mars, Erecta multiflora, Mazeppa. Gloxinias, of which there is a charming variety now in cultivation, are well deserving a place in every house where there is warmth. The erect-blooming kinds are very interesting and useful for bouquets. For gesnerias you cannot have better for sorts than Merkii, Cinnabarina, Zebrina splendens, Donckelaari, and that neglected tubiflora, which is well deserving of notice, the fragrance of which is delightful. All that is required is care, with a trifling outlay in getting a collection, then your plants will repay for the trouble bestowed upon them by adorning your house during the autumn with their exceedingly interesting bloom and foliage.

South Lambeth. WILLIAM GLOVER.

AUTUMN FLOWERING BULBS.

FASHION never made a more healthy march in a new direction than she has done of late years in giving prestige to autumn flowering bulbs. Tritoma uvaria is making as much sensation, perhaps more, than did the Pampas grass, and whoever has seen it at Kew has long ago determined to have it in the home garden. The increased demand for it has set nurserymen to work, and the result is, that instead of demand enhancing the price, in this case it has brought it down to a figure so trifling, that price need no longer be a consideration with anybody, whether they want a couple or a hundred dozen. At the same time in the florist's walk the gladiolus has made a rapid march, not, perhaps, entirely owing to the encouragement of the Emperor, but certainly somewhat in consequence of the success which has attended its culture and breeding at the Imperial Gardens. The French are devoting themselves to the improvement of the gladiolus with the same ardour which they have long shown in the hybridizing of the rose, and with equally pleasing results. The representative of the French interests here is Mr. Standish, of Bagshot, himself a successful breeder, and a good judge of their respective merits. But the best of all the good points in the culture of autumn flowering bulbs is that they are admirably adapted to mix in groups, and the beds furnish places for ornamental foliage plants to make amends for their lack of foliage, or the comparative thinness of it when the

bulbs are used alone. Cannas make excellent supporters to beds of Gladioli, Tritomas, and Tritonias, and the same drenching with water all the summer as the Tritomas require, suits them equally well. Asparagus and crimson beets mix well in beds of grass-like plants, but few English people have courage to use such things in ornamental gardening. Arundinaria falcata, Farfugium grande, and Cineraria maritima offer their foliage for the formation of a good bottom and relief to the grassy character of the bulbs.

The best place out of doors for the choice hybrid Gladioli is among Americans, for peat suits them exactly, whereas the best place for Tritoma uvaria is a deep, rich, wet loam, and a clump of it should have a deluge of water all summer, and occasionally a deluge of something stronger. Still, it is easy enough to make up the ground for them, and bring them together on the best of terms.

For out-door display there is no occasion for expensive named seedlings, which are best adapted for pot culture. The hybrids of Gandavensis and Brenchleyensis are very effective. Plant in April, and whatever the soil, use plenty of sand. The situation should be well drained, and the best soil is peat. Animal manures they have a positive dislike to, and hence the best refresher is leaf-mould. To get early bloom out of doors the bulbs should be potted in January, and put in a cold pit plunged to the rim, to be turned out with roots ready formed in April. Where the soil is clay, or stiff loam, Mr. Standish advises burning one-half of it, then breaking it to pieces, and adding sand and leaf-mould. Whether in-doors or out, good varieties of Gladioli should be taken up in October, and dried quickly, and stored away in dry sand. When potted for the house, use fresh turfy peat, if you can get it, if not, a mixture of loam, leaf-mould, and broken charcoal. Pot them early in April, and reserve a few to pot at the beginning and end of May for a succession of blooms.

Whoever would see the Tritoma uvaria in fine bloom next season, should plant at once in the richest loam that can be provided for it. If made the centre of a bed, sink that centre a little below the general level as a basin to hold water, and be sure you give it plenty all next season. Like the pampas grass, it will make a fine clump on the lawn, and can be planted in the same way in a hole prepared with well manured loam, and mulched with half-rotten dung a couple of inches below the general level. With plenty of water the flower spikes will rise six feet high, and the clumps enlarge even so as to furnish stock for the whole garden by removal of offsets. Tritomas are now offered at a guinea a dozen, and thus one of the most gorgeous and tropical-looking promenade plants becomes henceforth the poor man's property. The pretty little Tritonias, now getting numerous, are too generally treated as tender bulbs, and are spoilt by coddling, and by being compelled to rest against their will. They are bulbs that never rest, they grow all winter, and if under glass, should be put on the same shelves as Lachenalia, Ixia, Sparaxis, and other *nearly hardy* kinds, and to have as much water as they do to prepare them for their spring blooming. But in truth the Tritonias are as hardy as Vallota purpurea, which we know of as wintering out of doors in many places not over well sheltered on the north side of London. Turn out your potted Tritonias next April, treat them all summer as half aquatics, and let some of them remain in their places next winter, and you will have confidence to leave them out ever after, and be rewarded with a larger increase, and such blooms as make contemptible those you have been content with on the plan of flowering in pots and seasonal drying up. I forgot to mention Agapanthus as a proper inmate of a bed of Tritomas and Cannas, add Tritonia aurea, and if you leave it out all the winter, give it a covering of four inches of coal ashes.

An Old Gardener.

SELECT GREENHOUSE PLANTS.

NERIUM SPLENDENS.

One of my employers had a present of a plant made him, which came under my care fifteen months ago, at which time it was a lank, gawky plant of about four feet in height, in a 40-sized pot. As it was too late in the summer to do anything with it that might induce it to bloom that season, it was placed with other green-

house plants, and no notice was taken of it further than to water when necessary. About the middle of October it was placed in a coach-house with a number of fuchsias and things of that sort for the winter; it did not, from that time until the middle of March, receive water more than four or five times, indeed, water was not given until the young wood and the leaves were absolutely shrivelled. About the middle of March it was well watered several times a day for a few successive days, in order to get the ball of earth and mass of roots thoroughly saturated, after which it was potted into a 24-sized pot, using nothing but pure forest loam, set in a pan of water and placed in the warmest and lightest part of the greenhouse, with its top very nearly touching the glass. Here it began growing very rapidly; the pot was very quickly filled with roots, which also covered the surface of the soil in the pot, presenting much the same healthy appearance as the roots of the cucumber under genial treatment. The flowers began to expand about the end of June, were very large, and of a deep rose colour, and the plant remained for two months one of the most beautiful and attractive objects I have ever seen. The pan in which the plant stood was a 12-sized pan; nevertheless, though it contained so much more water than might be considered necessary for the plant, it was filled, and absorbed by the plant nearly every day. When the plant was out of bloom the flower-stems were cut out, and it was set out of doors till the middle of October, when it was placed in its old position in the coach-house with fuchsias, etc., where it is now undergoing the drying process.

ALSTRŒMERIA PELEGRINA.

There are a number of fine old plants which have been long introduced into the country, which are nothing near so well known as their merits deserve, and which there is a danger of overlooking altogether on account of the large influx of more popular novelties; and you would be conferring a real benefit upon the lovers of Flora, if you could say anything that would serve to bring into more general culture the beautiful Alstrœmeria pelegrina.

This fine old plant is a native of Peru, and was introduced to our gardens in 1753. It is a most useful plant, either for pot culture or for the open border. Very nearly the same treatment as that bestowed upon Lilium lancifolium and its varieties, will suit this plant. After it has bloomed and ripened its seed, it should be allowed to rest, and have no water given to it until about the middle of November, when the mould should be shaken entirely from the roots, and then potted in equal parts of leaf-mould and loam, with about one-sixth of silver-sand, or, wanting leaf-mould, very rotten manure will be equally good for them. Let each root be placed in as small a pot as it will conveniently go into, water them, and place them in the greenhouse, where they will have abundance of light and air. They will make rapid growth, more particularly at the roots, all through the winter, and by the middle or end of March will require to be placed in pots two sizes larger, in the same soil as before. Here they must be allowed to bloom. As the shoots advance they should be secured neatly to sticks, about a foot and a-half in length, to preserve a neat appearance. They will come into bloom about the middle of June, and remain some weeks in flower, and, with their numerous large flowers of a rose, blush, yellow and black spots, will not yield to any of their congeners in interest and beauty.

Although this plant is very impatient of frost, it is, nevertheless, one of the very best perennials that can be grown in the open border. If it is planted in a border at the foot of a south or west wall, in light, friable soil, it will continue to flourish many years without any attention whatever, and become a large patch, throwing up scores of flowers in the course of each summer. When the root is first inserted in the soil, let it be planted five or six inches deep, so as to be beyond the reach of injury by frost, and it will take care of itself afterwards, for all Alstrœmerias, instead of rising to the surface, have a tendency to drive their crowns deeper into the soil year by year. It will sometimes happen that a fine crop of young stems will be destroyed by a late spring frost; this is discouraging, but they never fail almost immediately to send up a fresh supply.

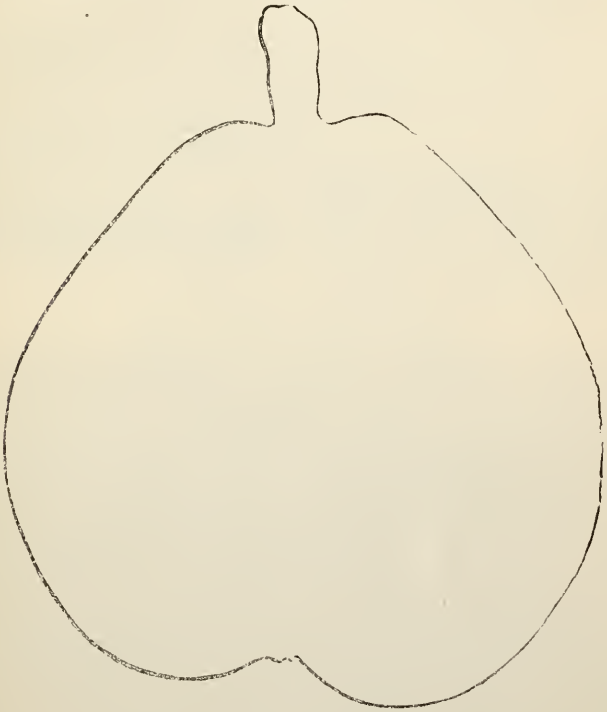
There is a white variety of this plant which is very interesting, but not near so beautiful as the species.

WILLIAM CHITTY.

Stamford Hill.

NEW PEAR.

This pear has been in the hands of many leading growers some years, but has not yet been entered in English Catalogues. At the meeting of the Pomological Congress, held at Lyons, September, 1857, it was named "Beurré de Luçon," but which



BEURRÉ GRIS D'HIVER NOUVEAU.

of its two names will be adopted in this country remains for Mr. Rivers, and a few other of the great patrons of new pears, to determine. This pear is always above medium size, and sometimes very large. The rind is richly marked with russet, the outline is pomiform; season of ripening, the end of December to the end of January, when the flesh is juicy, melting, and aromatic, but sometimes gritty at the core. It is not well adapted for growing on the quince, and, except in very warm localities, requires a S. or S.E. wall. For the North of England it appears, at present, to be quite unsuitable; but, in a good climate, it is a valuable variety.

THE VINE ON A DRY SOIL.

"As it bears on this subject, I may state that I have watched a Royal Muscadine Vine for the last few years with a good deal of interest. It has been planted about thirty years, and covers the front and end of a cottage on this estate. The soil is very poor, and will not produce a decent cabbage; it is composed of light gravel, about fifteen inches in depth, on a subsoil of gravel and clay, very hard, and

which no roots care to enter; and yet this tree has never failed to produce a plentiful crop of grapes, and has entirely escaped the mildew. Now, it appears to me that, with a glass covering and liberal feeding, this tree would produce first-class grapes in abundance. The wood, though small, is remarkably hard and short-jointed, and that is just what we want."—*M'Ewen's Culture of the Peach and Nectarine.*

VALLOTA PURPUREA.

Oblige me with the name of the enclosed lily. It grows on a tall stem with fine blooms. I see many of them in the windows of the cottages of a village on Dartmoor, and they do not know the name. A. R. S.

Torquay.

[It is Vallota purpurea, *syn.* Amaryllis purpurea, one of the handsomest of the amaryllids, and withal one of the easiest to manage. They are not particular as to soil, though they flourish best in sandy loam and peat; two-thirds of the former and one of the latter, with about one-sixth of silver-sand. Thorough drainage is of the first importance to all plants of this tribe. The plant in question will answer well under window treatment; but the very best place of all is on a shelf in the greenhouse, near the glass. The foliage being persistent, it does not require a season of rest like those which lose their foliage, but requires to be attended to with water all the year round. It is one of the noblest of Cape bulbs, and also one of the cheapest.]

CULTURE OF THE POMPONE CHRYSANTHEMUM FOR POT SPECIMENS.

I propose to lay down a few simple rules for the culture of this autumnal flower, which has so deservedly become popular with the amateur, the gentleman's gardener, the cottager, the owner of the mansion, and every true lover of flowers. It adorns the small spare window-room, and the spacious architectural conservatory, and is everywhere acceptable for its cheerfulness at a season when flowers are scarce. The preparation of the pompone for bloom, either in a three-inch pot, or an eight-inch pot, is the same, and the difference in the size of the plant depends upon the time of starting, viz., in November for specimens, or in May or June for small plants. The same care is required to preserve the foliage, and to secure a well-developed head of bloom in both cases; and upon this care, though it may appear simple, depends success, which cannot be too strongly impressed upon the inexperienced. I have selected those which are best adapted for pot-culture as specimens:—

Alexander Pele, salmon bronze, fine bloom; Aurora borealis, dark-shaded orange, fine; Berrol, golden-yellow, free and fine; Bijou de l'Horticulture, sulphur white, free and fine; Bob, dark brown, well-grown, dark crimson, fine flower; Cedo Nulli, white, brown points, a fine, free-flowering variety, the crown-bud producing an anemone flower; Duruflet, rose carmine, fine flower, long-jointed habit; Figaro, red and yellow, free and pleasing colour; General Canrobert, yellow, extra free-flowering, and lasting; Helene, rosy-violet, free-flowering, and fast-growing; Pluie d'Or, golden-orange, very free and fine, the crown-bud producing an anemone flower, as in Cedo Nulli; Mustapha, brownish-crimson, large and free; Riquiqui, violet-plum, free, and fine-formed flower; Sainte Thais, chestnut-orange, the best of its colour, and fine flower; Trophee, rose-mottled, very free and good flower. These include all the best that have been shown as specimens for the last four or five years; notwithstanding, there are many others fit for pot-culture, too numerous to mention here. There are, however, four which I should strongly recommend for trial as specimens, viz.:—Mrs. Dix, violet and white, a noble flower; Madame Fould, creamy-white, one of the best-formed flowers; Salomon, a beautiful violet-plum, very free; Miss Julien (or Juliea), chestnut-orange, laced gold, fine form, and a perfect gem. These

are new and fine, both in quality and colour.

The cuttings should be made as soon as they can be taken clearly above the surface-soil, and, though many growers take the cutting below the surface, it is not so good, in my opinion, as when taken clearly above. The wood is harder, and that free growth cannot be obtained as from the soft wood of the surface-cutting. Young shoots, from one and a half to two and a half inches above the surface, are quite long enough for the purpose. Take the cutting in the left hand, and with a sharp knife remove the lower leaves, with the eye; this prevents it throwing up suckers during growth, and enables the grower to show a clear single stem, if two or three joints without eyes are left above the surface.

The striking is done in a cold-frame, or by bottom-heat. When struck in a frame, care is required in watering, otherwise they are liable to damp off. If struck by bottom-heat, avoid getting them into a rapid growth at this season of the year. The compost best adapted for them in their younger stage is of good fibrous loam three parts, of leaf-mould one part, of silver-sand sufficient to take the water through. This compost holds good until they reach, and are established in, 32-size pots, which, with an early plant and a steady growth, progressive, with regular repottings, will be in March, by which time I propose to give further directions. The stopping of the pompone differs according to the habit of the plant. In all cases, however, the first stop should be as soon as the grower can ensure from six to eight eyes; afterwards, continue stopping at every fifth or eighth joint, according to their length and the style of growing.

JAMES HOLLAND.

Spring Grove, Isleworth.

REMINDERS FOR JANUARY.

Azaleas in bloom keep warm and well supplied with water; the night temperature should be 50°; plants to be retarded keep at 40°. Ventilate as often as weather permits.

Auriculas water only enough to prevent getting dust-dry, and choose mild weather. Cleanse from dead leaves, and in so doing guard against injuring the collar of the plants. Keep the frost out of the frames if possible.

Asparagus put in for a succession; cover with three inches of mould over a steady sweet-heat.

Bulbs may still be planted, and bloom well, though late; but it is an injury to them to be left so late.

Camellias in bloom keep at 45° by night, and 55° to 60° by day, and with plenty of water. Plants for late flowering keep only just safe from frost.

Cinerarias to be sorted over, and those showing trusses to be encouraged in intermediate house. The strongest of those not showing trusses may have another shift to make fine specimens for late bloom. Use sulphur if any signs of mildew, and secure against frost.

Conservatory to have enough fire to keep away frost and damp. See that the deciduous are in neat trim before they flower. Put the forward bulbs at the warmest end, and the hard-wood plants at the coolest. Stove plants introduced in flower must be kept comfortable.

Carnations must have air as often as possible to prevent mildew. Beware of damp, especially after frost.

Cucumbers in full growth will want linings, as the frost soon reduces the heat. Sow in pots for succession, and plunge in dung-heat.

Dahlias to be looked over, and those of which stock is wanted, to be got to work. Choice sorts are best got in for roots, and get them at once if not secured.

Fuchsias may be started gently for cuttings in March, and for specimens to bloom early.

Forcing.—A temperature of 50° night, and 60° day, will bring on roses, daphnes, lilacs, weigelias, kalmias, azaleas, double plum, almond, and peach, and other of the showy spring flowers, with very little trouble. Keep a moist air, and beware of crowding.

Greenhouse.—Ventilate whenever weather permits, and drive out damp with fire-heat, but be in no haste to set things growing. Mildew will appear occasionally on the top shoots of geraniums; cut at once to a sound joint. Keep the floor very clean. Training specimen plants is a pretty task when out-door work is at a stand-still. Prepare for the busy season by securing compost, pots, crocks, etc.

Pansies to be protected by sticking a few evergreen boughs among them. Plants in pots keep safe from frost.

Pelargoniums for show to be kept gently growing at a night temperature of 40°, day 50° to 55°. Avoid wetting the leaves. Keep the plants sufficiently apart for air to circulate, and near the glass. Fumigate frequently.

Pines to fruit this season must have 65° by night and 75° by day, and plenty of tepid water.

Strawberries require good management if for early planting. Water those in the orchard-house when the weather is mild. Those in heat to have plenty of water, be near the glass, and air as often as weather permits.

Verbenas and *Petunias* start for cuttings.

Vines in flower to have no syringe and steady temperature; those breaking to have a moist air, and a night temperature of 45°.

TO CORRESPONDENTS.

LILIUM AND AMARYLLIS.—*J. K. N.*—Lilium lancifolium is hardy in the south of Britain, and does best in the same compost as is used for hyacinths. In bleak places it should be grown in a cool house. All the varieties are good. Amaryllis is a family not very clearly defined. Some of them are hardy, but those most prized are greenhouse plants, and grow in autumn and winter; but the section called Hippeastrum may be grown at almost any season by systematic treatment. Instead of attempting to dispose of the matter here, we will devote an article to the subject next month.

TOWN GARDEN.—*H. H., Horselydown.*—We are glad to hear of the benefit you have derived from reading the FLORAL WORLD and the "Town Garden," and shall always be glad to assist you further, especially if we can in future read your letters, which we can hardly do at present. If you can only get fresh dung, and your aucubas are poor, lay it in small heaps round the roots of each all the winter. The rain will wash a good deal of the strength away, to the benefit of the roots of the shrubs, and by March or April it will be sufficiently rotten to be raked off, as you want it, to mix with loam for potting, and will be in a nice crumbly state. We can think of no better plan, if you have no proper place in which to get it rotted. Mr. Hibberd recommends cutting down aucubas only when they are in a lean, miserable state, as they too often are in town gardens. They should be well manured at the roots in winter, and cut down close to the ground at the end of March, and they will throw up young shoots and plenty of fine foliage. The best time to plant hardy perennials is September, and the next best time February and March. If you cannot get Aster fulvis at a nursery, Mr. Hibberd will send you a tuft, if you remind him, in February. It is the prettiest of all the hardy asters. Aubrietias may be bought by the barrowful in spring at any respectable nursery. Cuero guano we can give no report of on our own responsibility; you must judge by what correspondents have said of it. Ribes, altheas and Virginian creeper may be pruned at once if they require it.

CAMELLIAS NEGLECTED.—*Amateur.*—When you were away from home, the plants had insufficient water. You should have put them in the open air in a shady place, with the pots three-parts plunged in coal-ashes, and they would have had a better chance with summer rains than they had in the glass-shed.

HEATING A PIT.—*E. B., Barnsley.*—The frost caught us as it has caught you, and we could not open any of our enormous batch of letters until we had this number in hand. That is the reason why we did not answer you privately, and not because we were careless as to the safety of your plants. The iron flue you propose will be apt to give off unwholesome fumes, and do a deal of harm to tender plants. You had better use a flue of drain-pipes, as recommended in former numbers, and, if you move away, they could be taken with you as easily as lengths of iron. Any neighbouring bricklayer could fix them for you. Look over Mr. Howlett's papers, especially that at page 209 of last year's volume, and you will see in a moment how to proceed. The lower the level at which the flue is placed, the more completely will the pit be heated; in your sketch it is too near the top. If the prospect of moving seriously interferes with your project, get a Waltonian case, and set it to work in the pit, and give it plenty of heat to keep frost out. This you can carry with you all over the world if necessary, for it is not much larger than an ordinary chest, and costs only fifty shillings. You would have none of the difficulty with it some of our less-determined friends have complained about.

FRUIT-TREES FOR WALLS, ETC.—*O. G. I., Chelsea.*—It must be a matter of choice for yourself whether to train the trees or grow them as pyramids cut flat. The latter method would be the least trouble and the most productive of fruit; but the trees will want a greater width of space than if closely trained. We believe the two plums you name are identical. Tell us what apples you have, and we will suggest what you had better add to them. The Stamford Pippin is about the best of the apples lately introduced.

DIGGING.—*Ignoramus.*—Two-spits-deep means one dig of the spade, and another dig below that. To perform the operation properly, read carefully pages 79, 80, 105, and 106 of the volume for 1858, where the subject is treated very explicitly. If you have not the volume, order of your bookseller the numbers for April and May, 1858. We cannot go over the subject again at present. A dressing of tenacious loam would improve your soil.

SEEDS FOR CANADA.—*Miss A., Evesham.*—The seed of the Portugal onion sent now will reach Canada in good condition if sent in canvas bags, suspended loosely within a deal box. If packed in sawdust or any other such material, they might be spoilt; but, hung up inside a deal box, the lid nailed down, and directed in the usual way, they will be surrounded with atmospheric air, which, when confined and dry, is the best preservative. Of course, if the box gets down in the hold, the seeds will probably get mouldy; so guard against that.

THE

FLORAL WORLD

AND

GARDEN GUIDE.

FEBRUARY, 1860.

GARDENERS, like other classes, may be classed under the three heads of good, bad, and indifferent. Deeply concerned as we are in the prosperity of horticulture, in every one of its many departments, we cannot but take a sincere interest in the welfare of those who gain their bread by the prosecution of the art. Many are the complaints that reach us of the inefficiency of gardeners; of their lack of general knowledge; of their limited experience; of their blunders, their perversity, and their stubborn opposition to the wishes of those who employ them. We are often inclined to turn a deaf ear to these complaints, because we believe that, in the majority of cases, employers expect too much, and are less ready to make allowances than they should be. Nevertheless, it is but too true that the working gardeners, as a body, are rather behind the age, though among them are many bright examples of industry, intelligence, and thrift. We hold it as a sound principle that if any class of operatives deserves to be charged with carelessness as to their own interests, there must be something radically wrong in the system under which that class pursues its industrial occupations.

What is the particular "something" to be unearthed in this instance? Does contact with the soil check those aspirations which lead men to higher flights of labour and thought? Does the peculiar nature of the gardener's task tend to depress him, and make him content with a poor mediocrity, instead of stimulating him to rise in his profession, and at every step of his progress gather knowledge for himself and others? That which most depresses the gardener is the insufficient amount of his wages, and the very little encouragement given him to persevere. It is sometimes said that the system of employing gardeners to help in dairy-work, superintend haymaking, and attend to labours out of his precise line as a gardener, is a disgrace to both the gardener and his employer. With this we cannot concur; the master and the man have a right to agree to any

terms of the kind that may suit their mutual interests; and thousands of gardeners keep their situations the year round, under such arrangements, who otherwise would have employment only during spring and summer. It is granted, that when a gardener becomes stableman, cowkeeper, pig-feeder, and manager of poultry all in one, there is not much chance of his getting profitable practice in horticulture, and generally those who employ a man in such a capacity are content to have their places always tidy, and care little about choice flowers, orchard-houses, or plant collections of any kind whatever. But the question of wages applies to all cases; no matter how a man may be employed, he must have sufficient pay, or it is unfair to expect from him a display of skill, or an unremitting application of industry. Compared with the manual occupations of the bricklayer, the carpenter, and other of the leading handicrafts, the gardener's occupation must stand first, not last, as to its mental and physical requirements. Why, then, is the gardener paid lower wages than any of these classes of operatives?—why is he obliged to dabble in plants at home, in order to eke out a living for himself and family, because his wages are insufficient? Let him grow as many varieties as he can in his own garden, according to the turn of his taste, but if he has to depend partly on the produce of his own ground for his maintenance, he must either rob his employer of his time or overtax his energies by working at home when his proper day's work is done. We have in our mind's eye an example in illustration of this. On a gentleman's model farm, five miles from London, a worthy man has occupied the situation of "gardener" for a period of not less than fourteen years. He, of course, keeps the garden "in order," and it is of large extent, and has as many hands as he chooses to employ to help him out when the work presses heavily, and especially when fences require dressing, or large breadths of ground are broken up for kitchen crops. He is responsible for the care of the live stock, has three cows to milk Sundays and weekdays, two horses to keep in trim, and a flock of thirty or forty ewes to attend to in the lambing season. Add to this five acres of meadow and the anxieties of haymaking, and you may conclude that this man is neither a fool nor an idler. We can testify of our own knowledge that the employer is fortunate in having the services of a man gifted with natural abilities for every department of rural life, and whose sobriety, industry, and gentlemanly deportment make him a credit to the establishment. There are those who would exclaim against the contract altogether; that a gardener should be a gardener, and nothing else; that master and man are both disgraced where the care of sheep and cattle devolves upon the servant who is also responsible for the care of the lawn, the trees, the vegetables, and the flowers. This is a matter on which such an expression of opinion amounts to meddling, because employer and employed are entitled to make what arrangements they please, and if the employer cares more about his model farm than for his uninteresting garden, he is entitled to have his way; but the matter of wages fairly comes into the category of questions for public discussion; and when we say that our friend obtains but twenty-five shillings a week for his multifarious labours, we think it will be agreed that the employer has the best of it. On such a pittance it is impossible for a man to maintain a wife and family in decency near London; and when sickness or old age unfits him for longer service, there can be no prospect for such a man except the workhouse. *Then* the public are burdened with a rate to maintain

a man who ought to have secured out of his earnings a fund on which to fall back for support, and who *would* have done so had his earnings been sufficient. The rate of wages *is* a public question, and those who contribute either by poor-rate alone or by the additional aid of private benevolence to the support of the unfortunate, the disabled, and the aged, have a right to demand that those who enjoy service, should pay for it sufficient to enable the servant to live in decency on his own resources, and during the days of his strength lay by something for contingencies. Our friend finds his wages insufficient, and therefore has set up a small nursery, the management of which compels him to labour instead of resting during every moment of his home leisure. Before he goes to the house in the morning, he gets through a little of his home-work; during his dinner-time he does a little more, and after dark he sits at his potting-bench, and, with the help of a lantern, prepares his compost, shifts his young stock, and keeps his fires going. During his absence, his wife attends to the sale of goods, and thus they keep house and home in a degree of comfort that might make them the envy of their neighbours, were it not visible to all that the man is overworked, and is shortening his life by the consumption of his strength and manhood.

Some of our readers will be ready to cite the wages of gardeners in their own districts to prove that our friend is supremely well off. About London the salaries of head gardeners vary much. At establishments where plants are grown for exhibition, and where the well-to-do proprietors show a liberal hand in the whole economics of their households, the head gardener invariably has a comfortable house and an enviable social position; but the under gardeners can boast of little either in comfort or social position. The average rate of eighteen shillings a week is a miserable stipend, and if it suffices to keep flesh and blood together during the season of activity, it affords no resources against the dull time of year, when, for weeks together, gardening operations are wholly or partially suspended.

We hear of "frozen-out gardeners," and have seen a troop of beggars carrying bunches of green stuff mounted on poles, but we never yet knew of a *bonâ fide* gardener who could stoop to beg for bread. They starve at home, nevertheless; and the dispensations of Providence, by which the hoar frost is scattered "like ashes," is to them no occasion for rejoicing at the fulfilment of the promise that "winter" should "never cease;" but a time of doleful misery, with an empty cupboard, hungry children's faces, and the want of clothing and fire. We never hear of frozen-out painters, carpenters, bricklayers, masons, *et hoc genus omne*, because *they* can earn sufficient in the season of activity to be enabled to tide over the severities of winter without a prospect of the workhouse.

We say that the rate of wages is a concern for the community, and that gardeners generally are insufficiently paid; and, therefore, the community have a right to complain against employers, and to demand of them that they deal liberally with those who are employed to minister to the most refined necessities of civilized life.

Gardening should inspire, in all who are interested in the pursuit, whether for profit or pleasure, or both combined, an earnest desire after truth and goodness. Every blade of grass and every flower that appears in its due season reminds us of the Almighty Creator, whose power is manifested in its life, and whose desire to add to man's enjoyment is ex-

pressed in the pencilling of its colours. Though "the servant is not greater than his lord," the command is to "do justly and to love mercy;" and He who hath formed of one flesh all nations of men that dwell upon the face of the earth, will visit with indignity those who consume the labourer's strength, and reward him insufficiently.

Fair dealing always pays best in the long run. Let those who want skill pay for it liberally; give the gardener a chance of improvement before you condemn him as a disgrace to his order, and when he sees that you have an interest in his welfare, he will show in his conduct the magical working of the law of kindness.

NOTES OF THE MONTH.

Highgate Gardeners' Society.—A very interesting meeting was held on the 23rd of December, in the National School-room, Highgate, for the formation of a gardeners' society. The Rev. the Rector presided; and there were present a large number of the gardeners of the district, besides numerous resident gentry and amateurs. After the chairman had expressed the gratification he felt at being present to inaugurate a society which would bring together, for purposes of mutual benefit and friendly intercourse, a class of operatives who occupied a highly privileged place in society, he called upon Mr. James Cutbush to read the rules, upon which it was proposed by Mr. Shirley Hibberd, that the rules be adopted, subject to discussion *seriatim*. A long discussion ensued, and some amendments proposed by Mr. Eagle were adopted. The subscription is fixed at 5*s*. per year, and 2*s*. 6*d*. a year for cottagers. There is to be an annual summer show, and if the committee can arrange for a spring or autumn show in addition, they will do so. We heartily wish success to this good beginning, and hope that good neighbourship may prosper hand-in-hand with horticulture at Highgate.

CATLOW'S GARDEN AND GREENHOUSE BOTANY.

Two volumes of the very pretty series of popular scientific books projected by Mr. Reeve, have just been re-issued by the Messrs. Routledge, who are the proprietors of the series. They are admirably produced in all respects, and well calculated to increase and improve a taste for gardening; and whether we regard their botanical or horticultural features, there is every reason why we should compliment their fair authoress on the excellence of these works.* They are each enriched with twenty faithful portraits of favourite flowers in colour; and by the help of these pictures and the accompanying descriptions, the merest beginner has a safe guide to a selection of plants for garden and greenhouse decoration, as well as plain instructions as to culture and propagation. The volume on the Greenhouse includes Ferns, New Holland Plants, Liliums, greenhouse and stove Climbers, Cape Bulbs, Succulents, the Hibiscus and varieties; Pimelias, Leschenaultias, Ericas, Orchids, and all the popular furnishing and decorative plants that require to be partially or wholly protected from the rigours of our climate. Though the plates are all good, they vary somewhat in their merit; the best in this volume are Anigozanthos tyrianthinum, a difficult subject for the pencil; Hibiscus grossulariæfolius; Eriostemon intermedium; Leschenaultia arcuata, most beautiful; and Ipomœa simplex. This last named plant is described as one of the Ipomœas most worth cultivating. It needs only a small pot, placed in a green-

* "Popular Garden Botany; or, Descriptions of Hardy and Half-hardy Plants, introduced into the Flower Garden." By Agnes Catlow.—"Popular Greenhouse Botany; or Descriptions of Exotic Plants, introduced into the Greenhouse." By Agnes Catlow. London: Routledge and Co.

house, and no trellis to support the stems, which at most do not exceed a foot in length, and are clothed with long, slender, grass-like leaves. These leaves are three or four inches long, narrow, and having waved margins; the corolla is very large, of a fine rose colour; the tube slightly enlarged upwards, and expanding into the broad, spreading limb. After flowering the stem dies down.

In the chapter on Orchises the following European and American species are enumerated as suited for culture in cool houses, viz. :—O. longicornis, bifolia, sambucina, spectabilis, morio, papilonacea, conopsea, odoratissima, and foliosa. Of Cypripediums the following are also suited for houses where there is but a moderate amount of heat:—C. barbatum, insigne, Irapeanum, venustum, Lowii, album, caudatum, arietinum, humile, spectabile, pubescens, guttatum, and ventricosum; the remaining divisions of the family have each a section, in which the best species are enumerated, with accompanying hints on their culture.

The "Garden Botany" comprises all the interesting hardy plants, native and foreign, which lend their attractions to beds and borders out of doors; and the subjects selected for illustration are such as must tend considerably to revive a love for some of the old favourites that have been kicked aside in the general rush after novelties. Here is the old Fuchsia coccinea, true to the life; the beautiful Linum Sibericum, with its pale blue eyes; the gaudy Tritonia aurea, with its deep orange tassels; the gay Cistus ladaniferus, and Helianthemum variabile, Clematis viticella, exquisitely drawn; Magnolia grandiflora, not so good; Dielytra spectabilis, Impatiens hortensis, and Calandrina grandiflora, true to the life. The best of the portraits is Passiflora cærulea. The twenty plates in this work comprise nearly a hundred examples, and it will be as agreeable at this season to look them over by the fireside, and so enjoy a second summer, as in a few months it will be to see the flowers themselves rejoicing in life and beauty.

The plan of each of these works is botanical; the plants are arranged in their classes, according to Lindley's "Vegetable Kingdom," and to each the Linnæan class and order are assigned. We know of no more acceptable works to teach botany by means of the examples furnished from the Greenhouse and the Garden, which together may be made to represent almost every grade of life in the vegetable kingdom. It should be added, that the text of these works is written in familiar language, and that all technicalities are explained as they occur. They possess the additional merit of copious indexes.

CULTURE OF THE CINERARIA.

In a former number of the Floral World (June, 1839), I proposed to give the treatment of young stock of the Cineraria. That promise I now redeem. The Cineraria is an herbaceous plant; in its natural growth it comes to the stage of blooming, perfects its flowers, ripens its seeds, and the flower-stem gradually dies down. It then apparently undergoes a short season of rest. At this state of the plant great care is required, in avoiding the extremes of damp or dryness; experience has taught me to exercise great caution in this particular, having, to my disappointment, lost the best seedling that ever came under my care, from want of proper attention after blooming. When, therefore, the Cineraria has done blooming and the flower-stem is dead, or nearly so, by no means cut it off until a young growth makes its appearance, otherwise it will be a chance if the plant survives, particularly if it be a seedling. At this stage, a moderate shift should be given to encourage an extra action in the fibres, not by potting deeper, or by top-dressing, but by such a change as from 48 to 32-size pots; every prudent grower will have several plants of the best kinds in that size pot, from which to insure a choice of healthy, vigorous stock to start with. The season of preparation will depend upon the time at which it is intended they should bloom, and upon the nature of the plant, whether it be of the late or early flowering kinds; from the middle of April to the latter end of May, the best bloom may be obtained; after which time, the flower becomes small and unsightly. The best place for their reception after blooming is, if in April, a cold frame; and if in the middle or latter end of May, at the back of a south wall upon a bed of coal ashes or slates, or any other bottom that will prevent

worms from entering by the bottoms of the pots, which if allowed to do, are very destructive to the action of those fleshy fibres upon which the suckers, or young grass, depend for their support. Water must now be carefully and rather sparingly given; the application of it by the syringe overhead is greatly to be preferred to the water-pot; and not only should the pots be moistened, but the ground around also, to promote evaporation, which, with abundance of air, is the greatest delight of the Cineraria. Indeed, it cannot be kept too cool, and scarcely too much shaded during the hot summer months; for no plant is so easily crippled in its vigorous growth by exposure to the full sun and a dry atmosphere. I am perfectly aware that it requires the assistance of the sun's rays at the time of blooming, to bring up the colour; but too much, even then, will shorten the duration of their bloom, especially if in full bloom at the end of April or May.

But to return to the propagation, which, if proper attention has been given, will be about the months of July and August, for the main stock. Cuttings from one to one and a-half inches will be long enough, taking them off from below the surface-soil, by one joint, with a sharp knife; then insert them round the edges of a pot, filled to the rim with prepared compost, consisting of loam one-half, leaf-mould one-quarter, of decomposed manure one-quarter, and a fair addition of silver-sand. After the cuttings are inserted, give the pot a gentle rap on the potting-table, to settle the whole, and then syringe overhead, to make all clean and complete. Place them in a cold frame, or under a hand-light, in a cool and shady place, with but little air until struck, which will be in about three weeks. Then harden them off gradually, and as soon as they will bear full exposure to the air, pot them off at once, for the plant requires plenty of space at the roots when in vigorous growth; and the grower should always be particular to shift into larger pots whenever the roots have fairly reached the sides of the pots, and before they in any way become matted round it, until the sized pot intended to bloom in is reached. After potting, carefully water the plants overhead, which not only settles them, but cleanses the foliage, and return them to the cold frame, keeping them close for a day or two, while they gain a fresh start in the new compost. When grown in small pots, such as in sizes 48 or 32, no stopping, pegging out, sticks, or ties are necessary; but if for specimens, the plants require stopping, if properly grown, when they have got two pair of leaves upon a single stem, not allowing any suckers to come below the collar of the stem. From such a plant four breaks are obtained, which, with the majority of kinds in cultivation, is sufficient to make a handsome plant. After this stop, it is necessary to peg or tie down the leaves, to admit light and air, and so strengthen the breaks. This course must be continued until the plant has made its growth, and may best be done when the plants have attained the length of four or five joints. As breaks occur again at every joint, and at the same time the crown-buds are being formed, by continued stopping a much larger plant, though with much smaller blooms, is obtained. I therefore may observe, that by once stopping you will grow a medium size head of well-developed bloom, unless one of the breaks should by chance take a lead of the others, and then I should recommend to train it in any way rather than stop again, which produces a bloom in two stages. Though the Cineraria may be had in bloom from the beginning of March to the end of May, their prime is at the latter end of April and the beginning of May, allowing some difference for the early and late sorts; but to insure a season of bloom, start early and late plants; for instance, by the time the first batch of cuttings are struck and potted off, another batch of cuttings will be ready to take off, to succeed the earlier plants. With regard to the properties of the perfect specimen, little can be added to what is laid down in the "Properties of Florist Flowers," by Mr. Glenny. It states that, first, the flowers should be round without indentations between the petals, and without notch on the petals, the edge being smooth. Secondly, the petals should be broad and obtuse at the ends, thick, of fine texture, and sufficiently numerous to form a close circle; to this thirteen petals is the average number, more causing confusion in the flower; less, unless they be of extra breadth, would appear scanty. Thirdly, the truss should be large, the flowers edge to edge, forming a round surface. Fourthly, the ground of edge flowers should be pure white, the colour on the edges all alike, dense, and well defined, so as to form a complete equal ring all round the outer edge of the flower. Fifthly, the colour of all, whether selfs or edged, should be brilliant. Sixthly, the disk should be from a fourth of the diameter to, at the

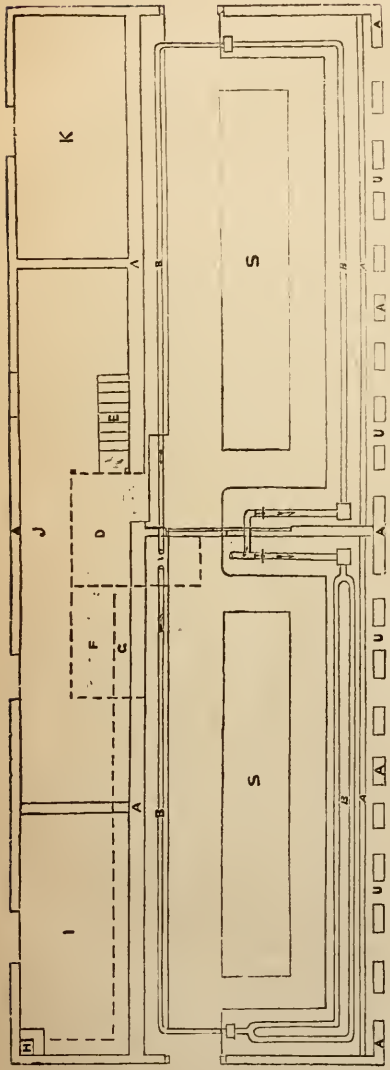
very most, a third, and to this I consider that the disk in an edged flower should be in proportion to the edge. Contrast is a great point in selfs, but not in edged flowers. Supposing we have a flower with a rosy carmine margin or edge, no variation of colour in the disk would make it more attractive, but with a self-colour it certainly would be a dull affair. A blue self with a gray disk is very striking, or a white with a blue disk has a similar effect, from the contrast. To make the circumference of the flower perfect, the petals must be remarkably broad and blunt. Cultivation and skill will bring it to this standard of properties.

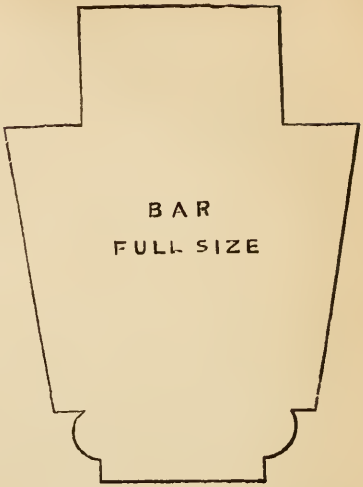
At the present time, one of the finest flowers in substance and outline, if not in colour, is Turner's Perfection, which is slightly reflexed, and so aids the formation of a perfect circumference. This reflex should be so slight as scarcely to be observed, except on close inspection; it is a great addition to beauty of form in this flower. A moderate temperature is best adapted to the Cineraria, two degrees above freezing-point may be borne at night, but half a degree of frost shows its results. A temperature of 40° by night, with a rise of 10° by sun in the day, is the proper average. If it be necessary to apply artificial heat, it must be done judiciously, so as not to cause too dry an atmosphere, which brings the thrip; and to this disease in the Cineraria there is little chance of cure. On the other hand, too much dampness, and shade with it, so as not sufficiently to dry them off by day, brings on mildew. This may be eradicated, if taken in time, by an application of a solution made of one ounce of tobacco, two ounces of soft soap, and a handful of sulphur, tied in a muslin bag, boiled in two quarts of soft water, until its strength can be squeezed out by twisting the bag. Then add to it six quarts more of water, and let it stand until quite cool, when it will be fit for use. If the plants are in 48 or 32-sized pots, place the hand over the surface, and dip the whole of the plant in. The immersion will not only destroy mildew, but black or green-fly. If the plants are large, the solution may be applied by the syringe, both underneath and above the foliage.

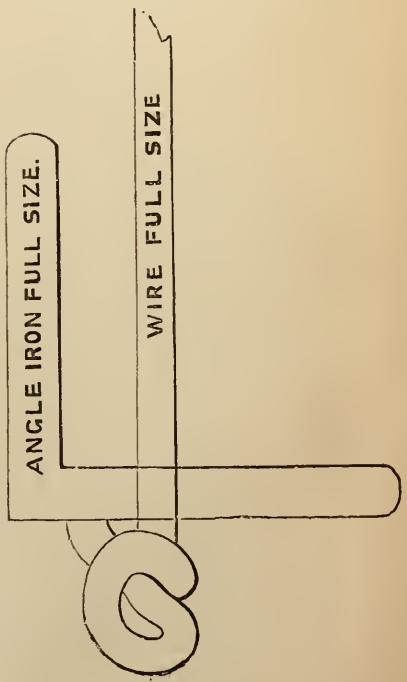
JAMES HOLLAND,
Gardener to R. W. Peakes, Esq.,
Spring Grove, Isleworth.

TOMATOES IN POTS.

I DO not plant out Tomatoes, but have had instead good crops from plants in pots, with no trouble in training or stopping, and no failure as to production or ripening. I sow the seed in February, in a sixty pot; the plants are kept under glass, starving, till the middle of April, then shifted into thumbs, and put on the potting board for a week. They are then packed together under a warm fence; when they want it, are shifted into sixties, and allowed to get quite pot-bound. Another shift into six-inch pots starts them into bloom at less than a foot high, and their further growth depends on their amount of root room. If left alone, and allowed to root through their pots, they swell their fruit well, and make no more growth, and every plant bears from nine to a dozen and a-half good fruits, which are ripe by the end of September. To swell them, give liquid manure once a week. I allow no succession of blooms. Any that are not quite ripe when sun heat begins to fail, may be put under glass for a fortnight; or, if of good size, cut off the fruit with a good length of stem, and hang them in a warm room, and they soon ripen. For small consumers, who want only a dozen or two, this plan is preferable to planting out; the pot plants are entirely under control, and require almost no attention at all. When tomatoes are grown to plan out, they should be always made to show bloom first in pots, else they may run any number of yards and waste the entire season in merely succulent growth. The many failures that occur might all be avoided by the observation of this simple rule. I should think market-growers might make a good thing by growing Tomatoes in pots for Covent Garden Market; they would pay better than egg plants for the London windows, if got ripe before the foliage began to change colour. S. H.







Ground Plans ½-inch to the foot.

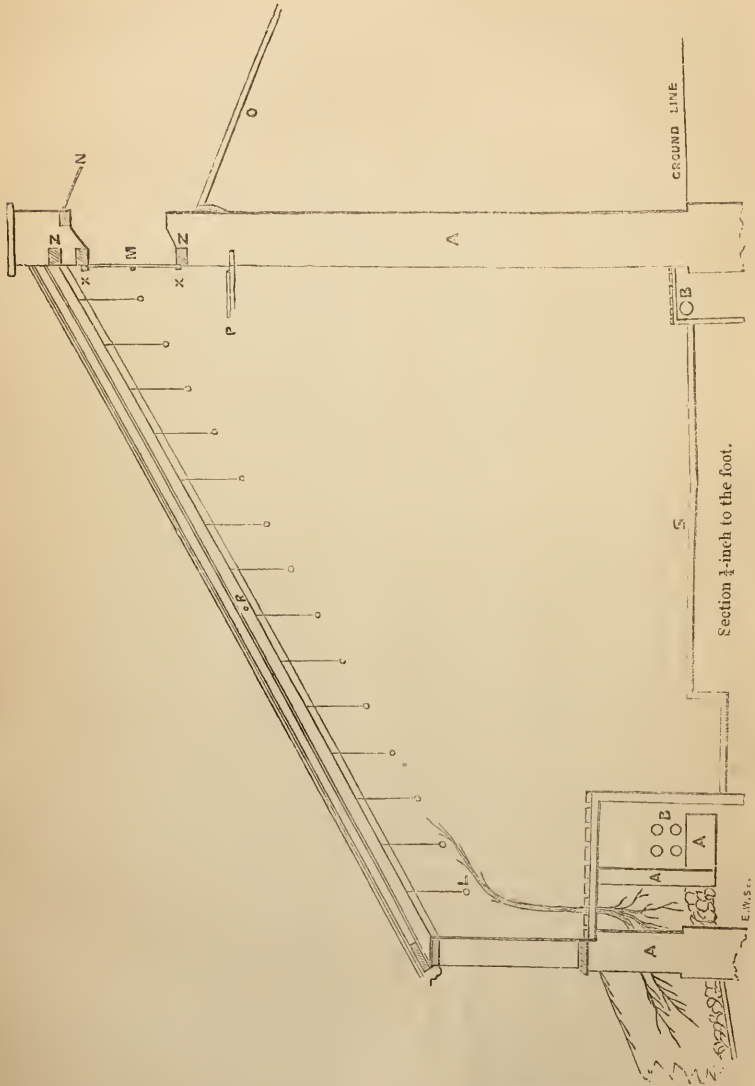
ON BUILDING, PLANTING, AND MANAGEMENT OF VINERIES.

In designing a vinery, or any other description of house, it is impossible to meet the wants of all our readers. The utmost that can be done is to set forth principles in such designs as are likely to be useful to the majority; for unless a plan is specially designed to suit circumstances, some modification will be found necessary in most cases, and this modification may take place without prejudice to the plan if the leading features are adhered to: for a building may be 50 or 100 feet in length, and yet be the same in every other respect; or, if it should be desirable that the boiler for heating should be at one end, or at a distance even from the building, instead of being placed in the centre, it will be equally efficacious, if the same amount of pipe is put in, though a different arrangement would be required. Or again, if the length of the house is greater or less than here shown, and in dividing the roof into bays, it is found that a greater width from rafter to rafter than that shown is desirable, it may be so, and might also require wider glass. Nothing of this kind detracts from the efficiency of the building; but do not interfere too much with the ventilation or the pitch of the roof. The object we have in recommending the fixed roof is its cheapness, compared with the old-fashioned plan of rafters and lights. They, however, admit more light and sun into the house, which is a decided advantage, provided the ventilation is well cared for. To this end, then, let all the front lights open, and also provide the means for as much as possible at the back. The timber used should be the best "redwood deal," and the rafters may be battens 7 inches wide and 2½ inches thick, with an inch beading nailed on their lower edge, to give lightness to their appearance, and a groove to receive the glass, made on each side, thus; also a capping on the other edge. The bars may be cut from either 9-inch or 11-inch deals, 2½ inches thick; the one will cut four bars, with a piece an inch thick to spare, and the other five bars, with the same to spare, which may be ripped into bars for doors, and the end or front lights, as these need not be so stout as the bars for the roof.

Of the other scantlings required I need not speak, as any carpenter will be able to determine them from the plans. The glass for such a house as is here shown may be "British sheet," 21 oz. to the foot; and if, in setting out the roof, it is found that glass 11 inches wide will come in, I believe it is, all things considered, the best width to adopt. And as in the building a house several tradesmen must necessarily be employed, and, consequently, mistakes be likely to occur, let the carpenter, in order to avoid them, before commencing the work, set out upon a spline the full length of the intended building, every rafter and bar, so that all may work to the same.

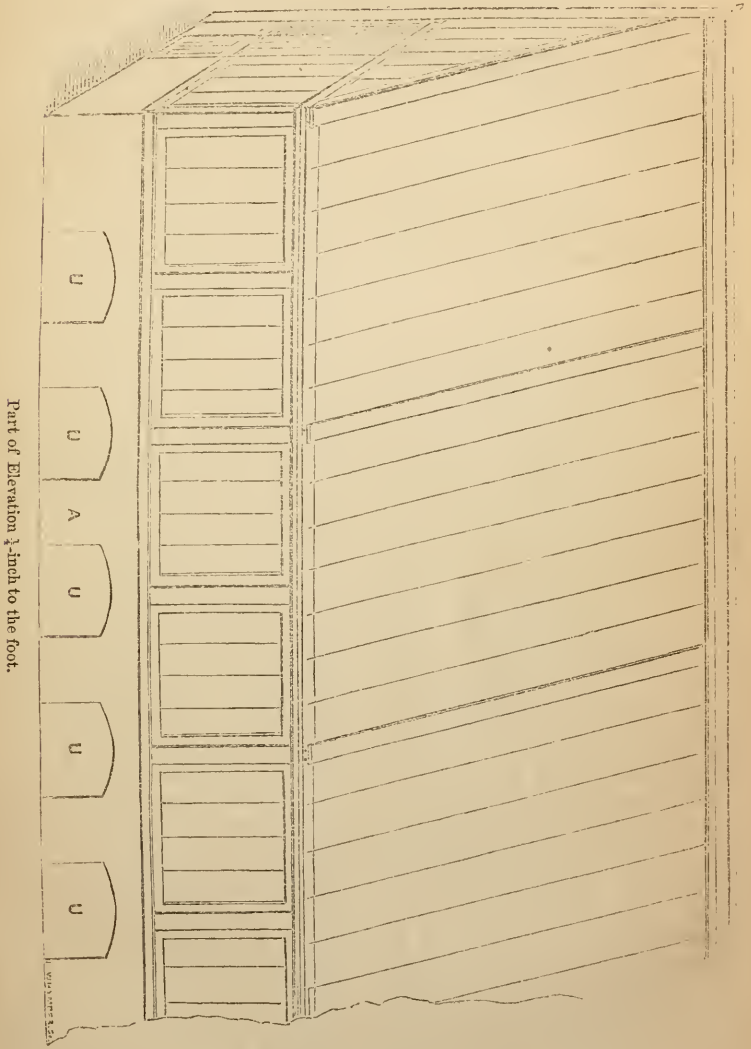
The accompanying plan for a vinery, divided for an early and a late crop, is designed more with a view to suit the professional man, who has few or perhaps no other houses, and, consequently, wants accommodation for a few other things as well as grapes, than for the nobleman, who has a house for every purpose; and if very early or very late grapes are not required. No appreciable harm will result to the grapes, provided the plants are considered as secondary, and be kept free from insects. With this in view, a rather lofty front light is shown, and also a wide stage in front of the house—the first to admit plenty of light, and the second, that the majority of small plants may be brought near to it, and the floor S will accommodate large specimens of orange-trees or camellias, whilst the small rack over the return pipe at back of house would be a suitable place for ferns, and on the shelf P a few strawberries may be grown. This, we say, may be done, if judiciously managed. On this we shall have more to say when treating of the vine in a future paper. A indicates brickwork; B, 4-inch hot-water pipes. Of these there are four in front and one at back of early division, but only two in front and one at back of division intended for the late supply. C, sliding door; T, stop-valves in pipes, so that each division may be heated separately; D, stoke-hole, seven feet deep. It should be remembered, in building the back wall, to turn an arch four feet wide, where the boiler is to be placed. E, steps to stoke-hole; F, coal-pit; G, flue carried through mushroom house I to chimney H; J, potting shed; K, tool, or storehouse; L, eyes

screwed into rafters. The wires for training the vines upon are put through these, and strained from angle irons fixed against the glass. M, ventilators, three feet long and at least two feet deep, placed the whole length of vinery, with



at each end of the house. They ought to be at least 12 inches long, so that the foliage of the vine may have room to properly expand, without being cramped just sufficient brickwork between for the shutter to slide over when open. These may be connected together by a small iron rod, and a chain at each end passing

over a pulley, the one for opening and the other for shutting; and, in order that they may work easy, let them run in angle irons,



Part of Elevation ¼-inch to the foot.

X, screwed to the face of Z, the bond timber. N, board to prevent rain blowing in at the ventilators; O, shed-roof; R, half-inch iron rod run through the bars to keep them steady; U, openings to admit the roots of the vines to the outside border.

Local circumstances have so much to do with the cost of buildings, that I shall merely remark on that head, that to carry out this plan would probably cost about £300.

Whitwell. H. Howlett.

PROFITABLE GARDENING.

CHAPTER XV.—CULTURE OF SEA-KALE.

The routine culture of asparagus, given in the last chapter, should be read over by those who intend to begin this season in the culture of sea-kale, because, in all the leading features of habit and management, these two excellent esculents very closely agree. As there stated, in the case of asparagus, so in the formation of a bed of sea-kale, the best plants are obtained from seed. Nevertheless, one-year old plants, put in at the end of March, or even cut sets of the crowns of roots, make good plantations, if properly managed from the first.

Choose for sea-kale the most open and generous soil you have. Trench it two spits deep, and turn in a liberal allowance of manure. Then mark out the plot into four-feet beds, with two feet alleys between, and strew over the beds a thin surfacing of salt. Let it remain from this time to the last week in March. Then hoe the beds rough, and put down the line, and sow the seeds in patches two feet apart each way. About six seeds should be put in each clump, in a circle of six inches diameter, and the seeds should be sown two inches deep. Instead of drawing drills, I measure along the line, and put in a stick where each clump is to be. With a small hand-dibber I make the holes round this stick, and drop into each hole a single seed. Instead of filling up each hole, I leave all open till the plot is sown, and then go over the piece and strew wood ashes in a little mound over each clump, which, of course, fills up the holes at the same time. The first rain that follows washes the potash out of the dressing into the soil, and the seedlings come up in a circle of charcoal, and grow with vigour from the first. In the course of time the plants begin to look crowded, and the bed, by that time, is sure to be looking weedy. I use the hoe to clear away the weeds, and then draw at least half the plants, so as to leave three in each clump, and those the strongest, just as we thin mangolds or turnips.

During the summer, liberal waterings are given in dry weather; and after rains, while the ground is still wet and warm, a good soaking with house-sewage is administered. The hoe must be used occasionally, even if weeds do not give occasion for it, to keep the surface open between the rows, and promote a vigorous action during the growing season. Wood ashes and salt make a capital mixture to spread thinly on the surface between the plants, but not to touch them, after each of these hoeings. While trimmings of hedges and prunings of trees and bushes are about, is a good time to secure, by burning, a stock of material for the purpose. Burn all your hard rubbish, and use couch grass, turf, and other close material to bank up the fire, and prevent a wasting flame, and store away the product in a bin in the potting-shed. Soot is also an excellent top-dressing, and is increased in value if mixed with salt. To use this mixture to full advantage, let the rule be "little and often." A thin sprinkling, when rains are about to set in, will all be carried, in a diluted form, to the roots; but a heavy application may do as much harm as good by over-stimulation. The same season as for sowing must be observed when a plantation is made from plants—that is, from the end of March to the middle of April. Get strong one-year old plants in preference to the three-year old, which nurserymen generally recommend. As soon as they come to hand, unpack them, and lay them together in a wet mat, and plant at the first opportunity. The ground must be prepared as for a seed-bed, and the plants must be set in two-feet rows, three plants together in a patch, and the patches two feet apart. A poor man, who cannot afford to purchase stock sufficient for his piece, may cut the crowns into sets, and dibble them in threes triangularly. They start better if the holes, made with a dibber, are first half filled with sand or fine charrings, and the clumps then slightly heaped over with the same material, which

must not be disturbed until the plants appear above the surface. The summer culture must be the same as already described for the seed-bed. If plants are required to transplant next season for making permanent beds, sow single seeds five inches asunder, in drills two inches deep, two feet apart, and give good culture, to insure strong roots for taking up. Owing to the extent to which sea-kale and asparagus are forced for market, there is always a sale for good plants, and many allotment-holders, who now complain that their land will not pay for its keep, might insure a substantial return for their labour by raising this sort of stock; for though there is no immediate return, there is also no immediate outlay beyond the cost of manure, and much of that may be manufactured on the spot by a general clearance of whatever can be burnt into charcoal, and by an economical management of the liquid and solid products of the cow-byre and the piggery.

The amateur and the market-grower take very opposite paths in most of the departments of practical gardening, but in the culture of sea-kale and asparagus, they must go side by side. The first is as anxious to taste the first dish of forced asparagus as the second is to get the first supply to market. To both, the practice of forcing is eminently profitable, and, mark it, eminently easy. Don't be in too great a hurry; don't put your plants on a fire, but in a gentle heat, and if you can afford it, use hot water in a pit for the purpose, and if not, trust to a sweet bed of dung or a store of leaves saved in a dry place.

Let us first consider the mode of forcing in the open ground. Provide a sufficiency of sea-kale pots to cover each clump of plants. Place these pots on the ground, every pot beside the clump it is to cover. Have ready the leaves or dung. If leaves are used, they should have been saved the previous autumn in some out-of-the-way dry corner. A few thatched hurdles may speedily be converted into a rough shedding with some stout stakes, under which to store leaves ready for use, as fermenting material; but if they have been exposed to the weather above ground, they will still afford heat enough to forward the plants. Get one of those sulphur dusters, called "Boite à Houppe," and fill the tin box with fine quicklime, or put the quicklime in a bag, and dust every crown with it, and cover up at once Then heap the dung all round and over the pot; pat it gently, to make it lie close, and let each heap extend fifteen or sixteen inches from the pot all round. Be careful as to this point, that too high and too sudden a heat will do mischief; the more gradually the heat rises, the longer will it last, and the better will be the flavour of the produce. If leaves are used, put the driest next the pots; make the coverings rather larger, because the material will soon sink into a small compass, and lay over them some fir branches or other heavy litter, to prevent the stuff being blown away by the wind. The safest medium temperature is 55°; the highest to be allowed is 65°, and the lowest to be trusted 45°. In the open ground it is difficult to insure a definite degree of heat, but there is no difficulty in preserving a fair average, because if it goes too high, opening the material with a fork will reduce it immediately; and if it wears out, the fermentation may be renewed by a new supply of dung or leaves.

Another mode of forcing in the open ground is managed with the help of frames. The frames are made to fit the bed, and instead of glass lights, they are covered with boards, to blanch the crowns. The alleys are opened and filled with hot dung two feet deep, and to facilitate renewals of the fermenting material, the trenches should be cut with slanting sides, or if a long bed stands alone on the side next the bed, the trenches should be perpendicular, and on the outer side slanting.

Those who want but a few small dishes may resort to still simpler methods. Get a few old boxes, half fill them with a mixture of loam, old dung, and leaf mould. Take up one or two year old roots, and plant them in the boxes, with the crown below the surface, filling up with the same

mixture. Put the boxes in a dark cupboard beside the kitchen fire; see that the soil is kept moderately moist, and that the crowns are in the dark, and cut when their plump waxen appearance invites you; or, to adopt a neater method, get from Mr. Pascall, of Chislehurst, Kent, or Mr. Hooper, of Covent Garden, a few of Fry's sea-kale pots, which are made with dark covers that fit into a rim expressly for forcing sea-kale. They are figured and described at page 152 of the first volume of the FLORAL WORLD. Plant singly in these pots the strongest roots you have, and stand the pots on the flue, over the hot-water pipes, or in a tan-bed, or over a tank: plunge them in a common hotbed, or wherever there is a steady bottom heat of 55° to 60°, and your supply is sure.

The common sea-kale pots, with lid covers, are not to be despised, but they are only useful when the plants are in beds. These of Mr. Fry's are now largely used where hot water has become the fashion, and they are also the most convenient things for those who force on a very small scale.

Rhubarb and asparagus may be forced by precisely the same methods, but they both require light to be worth eating. Therefore, though the books are against me in their indiscriminate counsels to blanch, blanch, I say blanched rhubarb is only fit for the London market, where any delicate-looking tasteless stuff is sure to sell if offered early in the season; and asparagus without colour can only be tolerated by those who are utterly ignorant of its proper shape and substance and flavour. You can get very white drumstick asparagus and very tasteless rhubarb at the guinea table of the London Tavern and the Albion, when the dinner season is in full swing; but no gardener who has tasted the genuine produce of his own growing would venture on the forlorn hope of attempting to eat it; on the other hand, the sea-kale sent to the London market is generally good, because blanching brings it to perfection.

In cutting sea-kale, be careful to take only the best shoots, and leave the others to improve for a next supply. Calculate your wants before you begin forcing, and set to work no more than will suffice for the first good dish. As one lot comes into use, set others to work for succession, and, of course, discontinue forcing as soon as the season is sufficiently advanced to afford cuttings from the open ground. Asparagus and sea-kale are not generally considered poor men's crops, but they ought to be so, nevertheless. The lavish manner in which stable dung is used in good gardens in making up beds for them, gives rise to a supposition that they cannot be produced except at considerable outlay, whereas a fair admixture of manure, such as any one would use for a crop of cauliflower, is quite sufficient. Instead of laying down a bed of dung for a subsoil, mix the dung all through to the bottom of the second spit, and keep up the growth during summer after cutting, by means of house-sewage well diluted, and the frequent use of soot and salt, and wood ashes in small quantities at a time, and the rains will carry these fertilizing principles down to the lowermost fibres. Better to use insufficient manuring than to be altogether without such a delicious esculent as sea-kale, which you may sell anywhere by showing it in its crisp, waxen freshness, and eat with any dish of flesh or fowl in the whole catalogue of hearty fare.

ON FORCING THE STRAWBERRY.

HAVING arrived at the season for forcing the Strawberry, I offer a few remarks on the management of that valuable fruit, and hope to set aside those conflicting opinions entertained by so many different growers, as to the failure of some and at the same time the great success of others; the one holding, as his opinion, that the too wet or too dry season has been the cause of failure, the other showing that

he can succeed with either. It has long been my opinion that the growing season has nothing whatever to do either with failure or success; it is a part of a gardener's duty to attend to watering in dry, hot seasons; in wet seasons there is not so much danger. Now, it appears to me there are only two very essential points to be attended to, to insure healthy, fruitful plants; but the great mistake is as to the forcing season. The whole season's labour may be frustrated by the work of a few weeks, either by too much heat or the want of a proper structure to force them in; indeed, I think it a waste of labour to attempt early forcing of Strawberries. Four or five hundred, well managed, will give a better return and greater satisfaction, if forcing is commenced at the end of January, than double the number will commencing the first of December. At the last-named season, the nights are long, and to keep a hardy plant in the confined atmosphere of a pine-stove or early vinery, is likely to be a failure, and will not remunerate a gardener for his anxiety, to say nothing of the waste of materials and labour.

The method I adopt for growing my plants is one very generally adopted by a majority of gardeners. I fill as many small pots (60's) as I want in the month of June, as soon as the runners have emitted the least root, with rich soil pressed rather heavily into the pots; the pots are placed amongst the plants, in order to receive the runners which are laid upon the soil, and pressed tight or pegged down with small pegs cut from old birch brooms. When this is done, they are watered at all times when necessary, and in a fortnight they will be sufficiently rooted to cut them from the parent plant, when they are potted singly into thirty-two sized pots, and placed thinly in beds, in the most open and convenient part of the garden, to remain until October. When they are put into frames, they will require great attention. In watering during the summer months, there are two highly necessary points to be observed to secure success at the forcing season, viz., first, well growing plants; and, secondly, a sound, healthy condition during winter, both of which are within command of every skilful gardener; for should there not be the convenience of frames for protection during the winter, they may be preserved in good condition after they have completed their growth.

In the following way select any shady situation:—Lay the pots in a double row, two feet wide; fill up the interstices with cinder ashes or dry tan, continuing layer upon layer, drawing each layer in a little, so as to form a ridge, which will be easily protected with dry litter or mats in severe weather. In this situation they will remain without water in a healthy condition until wanted for forcing. If plunged in wet ground, they are liable to become sopped with water, and the soil filled with worms, which is very injurious. Where there is not the convenience of frames, the layering system is the most advantageous, as they are less liable to receive any check by the operation of potting, which is of the greatest importance, as there is no time to be lost in making a fruitful plant. If the above remarks are strictly observed, a fruitful plant is insured. At the commencement of forcing, I fill pans with rich soil, upon which I stand the pots, so that they are benefited by rooting into it; they are liberally supplied with water at all times, for the least neglect in that would be fatal, and often the cause of failure in a whole crop. Bear in mind, a sudden heat may make them barren, and too much heat spoil the flavour of the fruit.

Ramsey. J. Howlett.

CULTURE OF STRAWBERRIES, AND DESCRIPTIONS OF THIRTY-SEVEN VARIETIES.

When the soil is not too cold and damp in winter, Strawberries should be planted in the autumn in preference to the spring, because by doing so they bear a better crop the following year. We advise those who receive their Strawberry plants a little withered, which cannot always be avoided, to restore them by plunging them into water for some hours before planting them. Anyhow they should be well watered after planting, let the time be when it may, and shaded for a week at least, if the weather be warm and dry, in order to facilitate their taking root again. When the Strawberry plants arrive very much flagged, in consequence of a long journey, it is advisable to prick them out under a cold frame, which must be carefully shaded during the day, and regularly aired; when the plants have well taken, they may be

removed with balls of earth round their roots and planted out, or, still better, left alone till the spring, when success will be more certain. In fact, this last mode of cultivation is the best for all Strawberry beds made rather late in the autumn, particularly if the soil is cold and damp in the winter. Those who have not frames may prick out their Strawberries in the open ground, provided the place is perfectly well sheltered from the north wind, and the plants are placed about eight inches apart; it is then easy to protect them from severe cold, and especially snow, by straw mats, or straw alone. In light soils the frequent frosts of the early spring are apt to draw out the plants and expose their roots to the air; this inconvenience may be partially prevented by treading down the earth, or by rolling it, in order to make it solid before planting, and doing so every time that frosts raise the roots, and loosen them; but care must be taken that the earth is dry enough not to stick to the feet.

Ajax (Nicholson).—Large, round, deep red, red streaked with white, firm, sweet, high-flavoured, early.

Admiral Dundas (Myatt's).—Very large, irregular form, scarlet red, flesh white, edged with orange, sweet, high-flavoured, perfumed; late, does not bear freely till planted two years.

Belle Bordelaise.—Fruit deliciously-perfumed, plant a good bearer, well suited for forcing, sometimes produces a second crop in the autumn.

Belle de Paris.—Very large, conical form, bright red colour, flesh rosy white, very firm, high flavoured, strong and fertile, easily forced.

Black Prince (Cuthill).—Early, fertile, continues to bear for a length of time, deep colour, flesh is juicy, rather sour, in light dry soils it forms its fruit badly, good for forcing.

British Queen (Myatt's).—Very large, irregular oblong, light vermilion red, flesh solid, firm, white, or rosy white, sweet, watery, perfumed, delicious, late, one of the very finest, and large-fruited, it prefers a virgin sandy soil.

Carolina superba (Kitley).—Large, vermilion red colour, seeds prominent, flesh white, firm, and of a delicious perfume, like the British Queen, but more hardy.

Crystal Palace (Nicholson).—Enormous fruit, elongated form, flattened, bright red colour, flesh rosy, firm, juicy, and rich flavour; very late and prolific.

Red Meudonnaise, Alpine.—A beautiful variety, with large fluted leaves; fruit more regular and larger than common Alpine, producing less at a time, but for a longer period.

Bush Alpines (or *quatre saisons—de Gaillon*), red and white fruit, without runners, suited for border edging; bears abundantly at end of autumn.

Duc de Malakoff (Gloede).—Vigorous, fertile, fruit middle early, largest size, irregular, deep red, seeds prominent, flesh red, streaked with pale red; rich vinous flavour.

Eleanor (Myatt's).—Most beautiful and large fruits, elongated form, bright red colour, flesh firm, slightly acid and high flavoured; fertile and late.

Eliza (Myatt's) —Middle-sized, conical, light vermilion red, juicy, high flavoured, very perfumed and peculiar; ripens early, prefers fresh land, is not prolific, one of the best for preserving or for sweetmeats.

Empress Eugenie (Knevett).—Extremely large fruit, many of them measuring six inches in circumference, flesh a beautiful red, very juicy, perfume superior to most large Strawberries.

Exhibition (Nicholson).—Fine fruit, of an odd form, vermilion red colour, seeds prominent, flesh whitish yellow, sweet and perfumed. Remarkable for the length of time it continues to bear.

Goliath (Kitley).—Middling size, conical, vermilion red; flesh firm, rosy white, high flavoured, very perfumed, excellent; one of the best for preserving or sweetmeats; prolific and hardy; late.

Hovey's Seedling. — Large fruit, rounded form, scarlet red, flesh rosy, of a good quality though slightly pasty. Can bear drought better than most.

Keens' Seedling.—Middling size, bright red, flesh firm, sweet, juicy, high flavoured; early, hardy, and prolific; suited for forcing, but after first gathering, the remainder is small.

La Constante (De Jonghe).—Large conical form, bright red, shiny, seeds prominent, flesh white, very firm, sweet and perfumed flavour; late. Strong dwarf plant and very prolific.

Monstrueuse de Robine (Baumann). —Often enormous, vermilion colour, white fleshed, slightly edged with red, sweet, acid, high flavoured, very prolific.

Ne plus Ultra (De Jonghe).—A good Strawberry, of an odd form, sometimes an enormous size; seeds prominent, blackred colour; flesh red, with pale streaks, hollow, sweet, pasty, without juice, ripens early.

Nimrod (Lucombe and Co.)—Beautiful fruit, elongated flattened form, largest

size, same as Eleanor. Flesh red, pink in the centre, sweet, and high flavoured, one of the latest.

Prince Alfred (Ingram).—Very large pointed heart shape, deep red glossy colour, flesh hollow, red, veined with white, sweet, high flavoured, slightly acid.

Prince Arthur (Willmott). — Large, elongated, slightly flattened at the end, regular, red, flesh white to the centre, a little acid, high flavoured, late, strong and prolific.

Prince Imperial (Graindorge).—Fine cone-shaped fruit of average size, red, flesh rose colour, hollow, sweet, perfumed, high flavoured, strong and prolific, earlier than Keens' Seedling. Well suited for forcing.

Prince of Wales (Ingram).—Average size, frequently conical, red coloured, flesh white, streaked with red, hollow, sweet, and high flavoured, early and prolific.

Princess Royal of England (Cuthill). Early and prolific, fruit large or middling-sized, conical, orange red, seeds prominent, flesh delicate white, sweet, high flavoured, slight musky taste.

Princesse Royale (Pelvilain).—Large, elongated, bright red; flesh full and firm, rosy white, high flavoured, tolerably sweet; early prolific, calculated for forcing.

Queen Victoria (Myatt's).—Very large, almost round, vermilion red, flesh red, veined with white, perfumed; mid-season, hardy and prolific.

Rival Queen (Tiley).—Very strong, largest sized fruit, conical form, orange red, seeds prominent, flesh white, delicate, sweet, and perfumed.

Sir Charles Napier (Smith).—Pointed heart-shaped, regular, white flesh, firm, a little acid, high flavoured; prolific variety, easily forced, ripens the second season.

Sir Harry (Underhill).—Very large, almost round, deep red colour, flesh white, sweet and perfumed; prolific and easily forced. We have seen enormous fruit from English growers.

Sir Walter Scott (Nicholson).—Very large fruit, elongated form, pointed, deep red, seeds prominent, flesh white, firm, sweet and perfumed, great bearer, and suited for forcing.

Stirling Castle Pine.—Large long fruit, red, flesh tolerably solid and firm, pale red, sweet, high flavoured and perfumed; half early. Valuable on account of the firmness of its fruit, which enables it to stand travelling.

Surprise (Myatt's).—Splendid fruit, elongated, flattened, square at the end, light red, with white tips, flesh white, sweet; seeds prominent, does well in dry soils, tolerably early.

Vicomtesse Héricart de Thury (Jamin and Durand).—Middle-sized or large, elongated, cone-shaped, often flattened at the end, red, flesh rosy and pale red, high flavoured, sweet, good, prolific; early.

Victoria (Trollope).—Large, round and regular, vermilion red, flesh slightly hollow, juicy, sweet, of good flavour, tolerably precocious and hardy. Forces well.

MADAME L. VILMORIN.

"WEEDS AT A PREMIUM."

ON looking into the December number of your useful book, the FLORAL WORLD, I see you have ascribed to me the paternity of an admirable article, for which I should be happy to have the credit, because it is written in a style to interest all true lovers of plants. I am quite of the opinion of "Fido Fides," that our British plants are worthy of all the attention that can be bestowed upon them, many of them being, not merely pretty, but gorgeous in their appearance. What, for instance, can surpass in richness and effect a large group of various-coloured foxgloves on an elevated position, say on the higher parts of a fernery, or at the back of a shrubbery? Then, again, what more gorgeous in effect than large masses of the common corn poppy (Papaver Rhœas), weed as it is, and scowled upon by the farmer, who does his utmost to extirpate it? I am weak enough to confess that I have frequently been quite enchanted at the sight of several acres of them, when in bloom, throwing up their brilliant scarlet blossoms, so as to be on a level with the rising heads of corn, and presenting a large level carpet of living green and glowing scarlet, surpassing all the puny imitations of art. The list, as given by "Fido Fides," might be greatly extended. For instance, I have seen in the neighbourhood of Guildford, in the identical shady lane I have already spoken of as being so favourable to the development of ferns (at Bramley, not Bromley, as printed), splendid specimens of Campanula latifolia, a most effective plant in a garden, producing large flowers nnmerously on spikes two or three feet in height. On the Downs round Brighton, the

beautiful Jasione perennis is abundant, as is also a beautiful dwarf scarlet thistle, the name of which I do not know. There is no more effective plant, while it continues in bloom, than the common Sainfoin of our fields. Its exquisitely-finished flowers of vivid rose, with darker longitudinal stripes, produced withal in great abundance, render it a most useful and showy plant, much more so in my estimation than its more gaudy congener, Hedysarum coronarium, or, as we commonly term it, French honeysuckle. I find I am becoming quite enthusiastic and prosy, but I must not deny myself the pleasure of saying what exquisite delight the sight of a patch of the beautiful yellow Crosswort (Galium cruciatum), in full bloom, gave me, while strolling, a year and a-half since, from Gravesend to Cobham; I had never seen it before, and was thoroughly charmed with it. In this neighbourhood, also, I found the lovely Ajuga reptans in full bloom, in a shady position, quite at home, and throwing up finer spikes than I had ever seen it produce.

Well, now, I dare say you will think these remarks out of place, but I really did read "Weeds at a Premium" with a keen relish, and I shall be looking earnestly for the results of the resolution of your interesting correspondent to cultivate a collection of British plants, and hope he will not fail to let us have the results of his observation and practice from time to time.

Stamford Hill. W. Chitty.

["Weeds at a Premium" was written by a contributor well known to all our readers, who chose to veil himself for once in a fanciful *sobriquet*, and Mr. Chitty's name was attached to the article by a mistake of the printer's. The paper, "Among the Ferns to Gather Knowledge" was from Mr. Chitty's pen.]

A SELECTION OF HOLLYHOCKS, OLD AND NEW.

I herewith furnish your readers with the names of twelve hollyhocks, new varieties, for 1860, unsurpassed for shape and quality; I also add twelve of the most decided and pleasing colours, which include some of the very finest flowers; and, lastly, a list of the best of the old varieties, and which, of course, are the cheapest.

I might, perhaps, draw your special attention to two or three flowers, viz., *Harriet*, *Leonora*, *Novelty*, etc., possessing an unusual attraction, being a step out of the way of what we have been accustomed to for the last few years; that is, we have abounded in rose colours, light crimsons, and buffs of a salmon and yellow shade; also purples, either ruby, crimson, or maroon, with a wide difference in their description, and three or four, oftentimes, varying so slightly as hardly to afford any legitimate distinction from each other and their parent flower.

The three named above are altogether unlike any others hitherto raised, and may, therefore, be truthfully described as great novelties.

Of older flowers, I also send a list of the kinds which, in my humble opinion, still stand paramount, and which may always be looked to for good flowers. They are varied in colour, and not to be surpassed by any other old flowers that 1860 can produce. I do not admit the new flowers, for there are some which certainly possess more substance, and are of a finer quality; for instance, Mrs. Chater is better than Beauty of Walden—Fearless Improved than Fearless, etc., etc. Yet, for general purposes, those named in my list are as a set unique, and no other list distinct from this can equal them.

TWELVE NEWEST AND FINEST-SHAPED HOLLYHOCKS FOR 1860.

Competitor (Chater), light crimson purple, shaded with mulberry, good spike and habit, medium.

Exquisite Surpass (Chater), possessing more colour than Exquisite, and of a deeper shade, dwarf.

Excelsior (Chater), fawn, heavily suffused with salmon, a distinct flower, majestic spike and bold habit, tall.

Fearless Improved (Chater), colour of Fearless, surpassing it in form, a bold and magnificent spike, tall.

Lady Helen Stewart (Chater), light rosy crimson, compact and full, good habit, and bold spike, tall.

Lady Braybrooke (Chater), soft fawn, tinted with pink, clear and chaste, close spike, dwarf.

Lucy (Chater), glowing crimson and amber, very attractive and effective, tall.

Leonora (Chater), the under side of the petals being light, contrasts with the

peculiar red of the guard and upper side of florets, compact and very distinct, tall.

Margaret (Hawke), a ruby crimson, shaded with a rich plum, distinct and new, a fine flower, of good properties, high centre, good spike, and fine habit, medium.

Mrs. Chater (Chater), surpassing Beauty of Walden, rather lighter in colour, of more substance, perfectly smooth, medium.

Premier (Chater), pale lemon and fawn, slightly tinted with pink, a well arranged flower, majestic spike, dwarf.

Satirist (Chater), creamy buff, heavily tinted with rose pink on the top of the globe, one of the finest-shaped flowers out, dwarf.

TWELVE MOST NOVEL AND DISTINCT HOLLYHOCKS FOR 1860.

Harriet (Chater), lilac, quite new in colour, approaching to the "Mauve," very chaste and pretty, magnificent spike, and good habit, dwarf.

Lucy (Chater).

Leonora (Chater).

Lady Braybrooke (Chater).

Imperial (Chater), crimson red, shaded, new and distinct variety, medium.

Black Knight (Bland), a great improvement on Black Prince, the darkest hollyhock grown, medium.

Countess Jane Somers (Chater), rich golden yellow, the best of its class, effective spike, medium.

Vandyke (Chater), bronzy purplish rose, new in colour, very closely set, compact, dwarf.

Negress (Chater), dark brown and claret, large flower, medium.

Violette (Chater), light purple, good spike and habit, dwarf.

Mr. Roake (Bragg), pale yellow, large smooth flower, fine spike, tall.

TWENTY-FIVE OF THE BEST HOLLYHOCKS, OLD AND INEXPENSIVE KINDS.

Annie (Chater), flesh white, with pale chocolate base, distinct flower, medium height.

Beauty of Walden (Chater), rose carmine, fine form, and grand spike, medium.

Commander-in-Chief (Syme and Co.), fine maroon, large, tall.

Ceres (Chater), rosy crimson, tinted with salmon, very full spike and compact, medium.

Exquisite (Chater), a most beautifully compact flower, white edges, with bright reddish rose base, distinct, dwarf.

Empress (Chater), fawn, with apricot, deeper base, fine form and quality, tall.

General Havelock (Paul), bright crimson scarlet, flowers well formed, good spike, medium.

Golconda (Chater), orange and gold, very effective, medium.

Géant des Batailles (Chater), brilliant crimson red, medium.

Lilac Queen (Chater), lilac blush, with purple base, high centre, medium.

Lizzy Roberts (Chater), white, finest form, and first-rate habit, dwarf.

Lady Middleton (Chater), rosy crimson, heavily suffused with salmon, first-class flower, produces a grand spike, medium.

Mr. Roake (Bragg), pale yellow, fine large smooth flower, produces a splendid spike, tall.

Memnon (Paul), light crimson, one of the finest, medium.

Mont Blanc (Chater), pure white, fine form, and good spike, medium.

Miss Ashley (Roake), pale creamy fawn, fine, medium.

Purple Perfection (Chater), light purple, fine dwarf.

Pink Noisette (Chater), pink, close and full flower, good spike, medium.

Purple King (Chater), rich claret purple.

Queen of Beauties (Chater), beautiful rosy peach, bold and fine, tall.

Queen of Buffs, pale buff, smooth and very compact, first-rate dwarf.

Shrubland Gem (Chater), deep canary yellow, good outline, produces a grand spike, tall.

Saturn (Chater), clear apricot, fine flower and spike.

Vesper Bell (Chater), pure white, with violet purple base, quite new, and distinct, medium.

Walden Masterpiece (Chater), lemon, shaded with pink, fine bold flower, of first-rate excellence.

JABEZ J. CHATER.

Saffron Walden.

SELAGINELLAS AND MINIATURE ROCKERIES.

WHAT diameter ought the 20-inch high glass shade be for Selaginella Martensii, so temptingly described by Mr. Hibberd in the FLORAL WORLD? I bought the enclosed labelled S. dictosoma. Is there such a plant? It is very pretty, grows

about 9 inches high, and does not show any distress at these cold nights, although there is never a fire in the room after five. What temperature can most of the selaginellas bear? Denticulatum lived out of doors last winter. I have two glass shades about 22 inches high and only 8 inches diameter. What can I grow under them? I thought of raising a pyramid of hazel rods (I am a very good joiner), and planting it with small growth ferns out of the sides. Will you name some plants; I only know Asplenium trichomanes and Adiantum pubescens. Would Maiden-hair have room if planted on the summit? G. S.

[Fern shades are all made of the same proportions. If you purchase a 20-inch shade, it will of necessity be of the proper diameter, and that is 16 inches. See that it fits *loosely* in the glass pan, or it may some day fly to pieces. There was no plant enclosed in your letter, and there is no selaginella bearing the name you cite. Your plant is probably S. dichotoma (*syn.* Flexuosa), one of the green section which sends out rootlets along the stems, and is thus easily propagated. It is notable, because each new growth forms a series of duplicate branches, the one receding from the other, and each point is again branched in a similar manner. The selaginellas vary in their degrees of hardiness. We have cæsia, formosa, apoda, helvetica, and stolonifera in a cool house, where the thermometer showed 4° of frost during the late severe weather, and they are now as healthy as ever, and cæsia has all its exquisite colour. One of the most difficult to get through the winter is Pæppiginiana, and it will not do to let Martensii go below 35°. Denticulata is quite hardy, and half aquatic during summer. You could produce a pretty and effective display under your glass shades by raising a pyramid, and planting the interstices as you propose, only, instead of hazel rods, use in the construction of the cone small pieces of very gritty sandstone and charcoal in about equal quantity; as the work proceeds, the pieces may be united by a little Roman cement. Let the intervals be filled up with a mixture of nice fibrous hazel loam and silver-sand, and insert the plants wherever taste and a regard to the habit of the plants may direct, as it will be difficult to insert them when the pyramid is finished. Within a shade 22 inches in height, a bank of this sort may be carried up 16 inches, and leave abundant room for the development of some of the prettiest little ferns. Insert at the top an empty small thumb-pot to be filled with water when the plants want it, through the hole in the bottom of which the water will percolate gradually and evenly through every part of the cone. The following are suitable:—Asplenium ruta-muraria, A. alternifolia, A. Hallerii, A. Fontanum, Adiantum capillus-veneris, Niphobolus rupestris, N. pilosilloides, Asplenium flabelliforme. Little bits of Lycopodium denticulatum introduced, and not allowed to grow too freely, will give an enlivening effect. One of the most satisfactory modes of planting such glasses is to insert a few pieces of L. denticulatum, or L. cæsium, in suitable soil, and let them fill the glass, which they soon do, and remain in perfect beauty for two or three years.]

ANNUALS OF LAST SEASON.

I SEND you my experience of two annuals which were highly lauded at the commencement of last season:—Tropœolum Tom Thumb Scarlet. A good scarlet bedding plant. It must be planted very thick to make a show. It will not suit exposed spots, as the head is too heavy for the stalk, and it is apt to break off. You expressed a fear that orange would predominate in it. This is not the case. Œnothera Drummondii nana.—A decided failure. The leaves overpower the flowers, which in themselves are undoubtedly fine. Good yellow annuals are still "desiderata" in my experience. Can you recommend any?

Ireland. C. B. K.

["Tom Thumb" is of a decided orange red; certainly it is not of the tone of red given it in Messrs. Carter's coloured print. In the "Garden Oracle" we have described it as dwarf and distinct; no substitute for Tom Thumb Geranium, but a good border flower, in clumps of five plants. The showiest yellow annuals are the Eschscholtzias, Lupinus lutea, French marigolds, Hawkweeds, and Chrysanthemum tricolor. The last is an exquisitely beautiful annual. The list in the "Garden Oracle" comprises the best of 200 sorts grown by Mr. Hibberd last year.]

TALLIES FOR POT PLANTS.

I SEND you my method of making labels for pot plants. It seems almost too simple to be worth describing, but as I did not hit upon the plan at once, and I constantly see labels in use which have evidently been produced at a far greater cost of labour, you may think it worth a place in your very useful book. I get a piece of half-inch plank, and saw pieces of two and a half or three inches long off the end; and then, with a pocket-knife, I slit these pieces into labels of the requisite thickness. A very little trimming with the knife forms them into the proper shape for inserting in the pot, and gives them a smooth side for writing on. To prepare them for this, I just give them a brush over with white lead, moistened with a little spirits of turpentine, which affords an excellent surface for writing on with a blacklead pencil. Mr. Hibberd speaks of never using coal ashes where they can get mixed with the soil, in consequence of their injurious qualities. In what way are they injurious? B.

[They sometimes contain earthy matters that deteriorate the soil, and the fine cinders amongst them are obnoxious to the roots and plants. This is Mr. Hibberd's reason, but many people use coal ashes liberally, and, when finely sifted, are least objectionable.]

THE CULTURE OF PERFUMES.

THE chief places of the growth of perfumes are the South of France and Piedmont, namely, Montpellier, Grasse, Nimes, Cannes and Nice; these two last, especially, are the paradise of violets, and furnish a yearly produce of about 13,000 lb. of violet blossoms. Nice produces a harvest of 100,000 lb. of orange blossoms, and Cannes as much again, and of a finer odour. 500 lb. of orange blossoms yield about 2 lb. of pure Neroly oil. At Cannes the acacia thrives particularly well, and produces yearly about 9,000 lb. of acacia blossoms. One great perfumery distillery at Cannes uses yearly about 140,000 lb. of orange blossoms, 20,000 lb. of acacia blossoms (*Acacia Farnesiana*), 140,000 lb. of rose leaves, 32,000 lb. of jessamine blossoms, 20,000 lb. of violets, and 8,000 lb. of tuberoses, together with a great many other sweet herbs. The extraction of the etherial oils—the small quantities of which are mixed in the flowers with such large quantities of other vegetable juices that it requires about 600 lb. of rose leaves to win one ounce of otto of roses—demands a very careful treatment. The French, favoured by their climate, are the most active, although not always the most careful, preparers of perfume; half the world is furnished by this branch of their industry.—*Athenæum.*

REMINDERS FOR FEBRUARY.

Asparagus and *Sea-kale* must be started at once for supply next month. Take up four-year old plants of asparagus, and plant in a bed over moderate dung heat. Let the grass grow till there is a plump green top before cutting.

Auriculas should have one good soaking with water soon, and a fair state of weather must be taken advantage of for it. If it continues frosty, keep them nearly dry, but they are in haste to move, and must be encouraged with caution.

Azaleas must be kept back, unless there is a large stock, or they will be all in bloom at once, instead of giving a charming succession. Those already in the forcing-house must have plenty of water, and if well loaded with bloom, they should have weak guano-water.

Calceolarias for show should be stopped, and have a liberal shift. Get the bedding stock into growth, and propagate.

Camellias are now pushing fast, and must be bloomed in a dry air, and be shaded from mid-day sun. Weak guano-water will help them, but give two waterings with plain water to every one of manure.

Cinerarias must be got into shape for blooming, and suckers must be removed from show plants. Give a steady and gentle heat, keep near the glass, and keep the stages clean, to prevent mildew. Give the forward plants weak manure-water.

Dahlias.—Ground roots should now be starting for cuttings. The losses have been very numerous in some places, and there will be a demand for good sorts in April. Leave pot roots alone till the end of the month, unless they are sorts that are much required for stock. Use no

more heat than is just sufficient for the work.

Fuchsias that have started should be laid on their sides, and syringed occasionally. Plants coming into bloom must have weak liquid manure once a week. Bedding fuchsias start in heat, and get ready a compost of turfy loam, one half; old hot-bed dung, one-fourth; leaf-mould, one-fourth; and at the first potting of newly-struck cuttings, plenty of silver-sand.

Geraniums have been cut up very much by the frost in places where the bedding stuff is wintered in pits. When killed down to the pot, the roots will generally be found alive, and if the fleshy parts of the roots are cut into two-inch lengths, and dibbled into silver-sand with the top of each cutting above the sand, good plants may be obtained, but they will bloom late.

Hyacinths must have frequent doses of liquid manure, and there is nothing better than diluted house-sewage or soot-water. They like bottom heat, and must have plenty of light to give them their true colours, but to be shaded when in bloom.

Pelargoniums must be got into shape at once, and with as few sticks as possible. When they want water, give them enough, but let them be rather dry for a while, rather than water during severe weather, because with water they will also require air. Repot autumn-struck plants, and give them liberal fire heat.

Potatoes may be sprouted by laying the tubers on a flue or on the surface of a pit planted with asparagus. A gentle heat and full light will prepare them for planting in frames for an early crop.

Roses, on their own roots, are as easily forced as any other flowering shrub. Plenty of light, liberal ventilation, and a little stimulus with manure water, will bring them into bloom in a house of medium temperature, with only one difficulty — green-fly—which every grower of roses knows how to deal with.

Strawberries.—Those being forced must be kept rather dry while blooming, and have plenty of water as the fruit is setting.

TO CORRESPONDENTS.

Books and Catalogues Received.—"Catalogue of Fruits cultivated and sold by Thomas Rivers, of the Nurseries, Sawbridgeworth, Herts." Prepared in the same careful way as the excellent books with which Mr. Rivers occasionally favours the horticultural public. On the first page are some diagrams to show the modes of training peach, pear, and other fruit-trees. The descriptive lists afford the reader a bird's-eye view of all the best fruits in England, and the notes are full of most valuable hints.—"William Chater's List of Hollyhocks for 1860." This is the list of the well-known firm at Saffron Walden, and is an indispensable list for the grower of choice herbaceous plants.—"Henry Lane and Son's Catalogues of Roses, Trees and Shrubs, and Choice Fruits." Three good lists of the stock grown at the Berkhampstead Nurseries. We find all the best of recent introductions in their proper places, and the roses and fruit-trees are admirably classified.—"Catalogue of Seeds offered by W. Thompson, Ipswich." Mr. Thompson is an ingenious as well as enterprising trader, and now and then delights us by introducing from the continent some choice plant, which takes a good place in our collections. We like the plan of this catalogue, for it is instructive to the botanist as well as the gardener, and the lists of grasses and aquatic plants are well prepared.—"The Phytologist and Botanical Journal." This monthly work on botany should be supported by all who take an interest in improving the study and advancement of one of the most engaging and useful of the sciences. Mr. Pamplin, the publisher, 45, Frith Street, Soho, is a collector of ferns, and also of dried plants of all kinds.—"The Forge," a beautiful line-engraving, the work of a self-taught blacksmith, and, so we learn, his first attempt at engraving. The scene is a smithy, with the brawny smiths at their work. The figures are all faultless, with the exception of a little piece of foreshortening, which an experienced artist would have found difficult. The light and shade, and the delineations of the rough beams in the glow of the fire, are exquisite. The artist is Mr. Sharples, Blacksmith, of 121, Cleaver Street, Blackburn, and the London Publisher is Mr. Wilkinson, Charrington Street, Somers' Town. It is sold at the low price of five shillings, which is certainly but a fourth of its real value as a work of art.—"Thoughts in Verse. Hamilton and Co." A spirit of cheerful piety pervades these neatly-printed pages of verse for children. We have been refreshed by the perusal of these poetic gems, and can conceive few delights to equal that of hearing them sung by a family of Christian children. Those who are making presents to young people should secure a few dozens of this very appropriate work.—"Sutton's Spring Catalogue and Amateur's Guide for 1860. Sutton and Sons, Reading." This admirable year-book keeps up its character for utility and interest in a way that is an honour to Messrs. Sutton. The lists of vegetable-seeds contain only a few of the best sorts for early, late, and medium work, so arranged that the purchaser cannot possibly choose a sort that will not suit his purpose. In the lists of peas and broccolis for succession, the wants of all classes have been carefully considered. Among the readable matter are notes on the Chinese yam, the culture of the mushroom, and the management of lawns. The instructions on the culture of annuals are so well done that we have transferred them to our own pages.—"The Gardener's Weekly Magazine, conduc-

ted by Messrs. Harrison." This is the old Floricultural Cabinet re-modelled and issued weekly.—"Plymouth Seed Company's General Price Current of Kitchen, Garden, Flower, and Farm Seeds for 1860." The enterprising successors to Mr. Rendle do wisely in keeping up the excellence of the price current as a powerful agency in extending the business of the house. It is well-arranged, and the leading subjects in each department are indicated on a principle which conveys a vast amount of information in a small compass. Cultivators of grasses will glean something useful from the list of farm seeds.

FLORAL WORLD.—The second volume, handsomely bound, price 6s., is still on sale. A few copies of Vol. I. may also be had, price 6s. The "Garden Oracle" has sold more extensively this year than last, and is pronounced the best garden almanack extant. Many nurserymen have adopted it as a gift-book for their customers, first for its intrinsic merit, and secondly because it is independent of all trade interests, for dealers who publish books must of necessity draw large connections to the injury of such of the trade as advertise with them. So many congratulatory letters have come in during the past month that we must here acknowledge them generally. We are thankful for the increased and increasing support. Every hint and suggestion will have consideration, and every request for information will be complied with as far as our power to comply may be equal.

GREENHOUSE PLANTS.—*J. R.*—The best time to inarch camellias in a greenhouse is April. Grafting can be performed from September to March, and the best method is by tongue-grafting. Inarching is the most certain and the easiest mode, but the plants are rarely so neat as those well grafted. The method called *graffe etouffe* may be practised all the year round. The best Correas are alba, pulchella, rufa, and speciosa; and, to bloom them *from* November, you must stop them when they show bloom at their proper season, which is June, and stop them again in September, and give extra heat to get winter flowers. Old plants may be cut in. The best stock for grafting choice kinds on is *alba*, which must be propagated from half-ripe cuttings, in sand, with bottom-heat. They can be increased by layers, but the process is a slow one, and makes bad plants. The cuttings of passion-flowers can be had in the season at a nursery; inquire of the best nursery in your own district. Propagate hard-wooded plants for which you have no bottom-heat in June. Acacias, Chorozemas, and Hoveas come from seed with little trouble, and make better plants than from cuttings. The Tecoma ought not now to be pruned close; leave at least a yard of last year's wood. We do not understand the query about Plumbago capensis; send a pen-and-ink sketch of the "angle," that we may see the place in our mind's eye. The other matters will be thought of, but we can make no promise.

BRIARS FOR BUDDING.—*Old Subscriber.*—The "Old Gardener," in FLORAL WORLD, and Mr. Hibberd, in "Garden Favourites," both agree in recommending the removal of thorns when the briars are planted. Is it not obvious that it is a mere matter of convenience? If they are not removed at all it is of no consequence; they never think of such a thing at the nurseries, but in a private garden the briars can be more comfortably handled for staking, pruning, budding, etc., if their stems are clear, and, by removing them at planting, the thing is at an end once and for all, and the bark heals over neatly. The author of the "Rose Garden" advises their removal as a preliminary to budding at budding-time, and he is so thoughtful of people's fingers that he suggests the use of a large key to push them off with; we always use the thumb. Mr. Rivers recommends the choice of buds from flowering wood, other writers from growing wood. It all depends on the state of the bud taken; if hard, ripe, plump, and not at all swelled for expansion, it matters not which of the branches it comes from, and in the nurseries they take them indiscriminately, but the buds on a ripe shoot that has not flowered generally part from the wood easiest, and writers think of the difficulties beginners must encounter, and commonly shape their instructions so that no mistake shall be made.

POTATOES SPROUTED.—*A. B.*—The description of potato sets at page 225 of Vol. I., places before the reader two distinct matters—first, if the sets have sprouted in the dark, the sprouts will be weak and worthless; second, if you *must* use large potatoes, it is better to cut them into sets with four or five eyes to each, than use them whole. Previous to making these statements, the writer says, "use none but *whole sets of middling size.*" These three points are distinct from one another, but you appear to lump them into one. If potatoes make blanched sprouts of two or three inches long, there is, of course, no way of restoring them to the state they were in before they sprouted, and in planting them, many of the sprouts will be broken off, and those that are not broken off are already so weak as to be of little use. Potatoes sprouted in full daylight can be handled in any way without breaking the sprouts, if the sprouts are short. The only way to avoid having the sets spoiled, is to sprout them in the light, as described at page 226 of the same volume, and in the best article on potatoes that has appeared in any of the journals since the disease.

MISTLETOE.—*R. U. N.*—Save the berries in sand till April, and then make a tongue in the bark of an apple, pear, thorn, or lime tree, and insert a berry so that the tongued bark will close down over it. Choose good positions on the trees, such as a fork in the main boughs, about eight feet from the ground. A mere slit in the bark will suffice to hold a berry, but the birds will find the berries and eat them, unless they are covered, and the best way to protect them, is to lay over the incision a tuft of moss, and bind it down with a strip of bast. Mistletoe grows slowly, and requires at least seven years to form a feature on the tree which supports it. Ferns are raised from seed in various ways. The simplest is to powder the dust-like spores, on a block of wet sandstone, cover it with a bell-glass, and put it in the stove, or a dark and warm part of the greenhouse. It is a subject that cannot be dismissed with a brief word here, and it is worthy of being dealt with at length some day.

GREEN GINGER.—*H. E. S.*—The best way to grow a small supply is in pots. Plant the sets in February, in a mixture of fibry peat and fresh silky hazel loam, using six-inch pots for each division of the root. Plunge the pots in a bark-bed, or in a dung-bed, newly made up as if for cucumbers, but surfaced with tan. Give no water for a few days, then but little, and gradually increase the supply as the plants progress. Give air in hot weather, and keep well supplied with water till September, when you will have a fine stock of roots for the preparation of a delicious sweetmeat. The ginger is a stove herbaceous plant, with red flowers. It is propagated by root division, winters at 45°, and requires a summer temperature of 65° to 85°, and may be grown by all who can manage melons. When a large supply is required, the sets are planted in beds over a hot-water tank,

or the heat is kept up with linings. Any of the nurserymen who advertise in this work can supply roots.

THERMOMETER SCALES.—*R. J. L.*—To reduce the foreign registers to Fahrenheit's, is a matter of arithmetic. The Centigrade has 0° for freezing point, and 100° boiling, and is a truly decimal scale. Reaumur's has 0° for freezing, and 80° for boiling. Fahrenheit's is 32° freezing, and 212° boiling—a very awkward and unscientific affair, yet the one adopted universally in England. To reduce Centigrade to Fahrenheit, multiply Centigrade by 9, and divide by 5, then add 32. To reduce Reaumur's, multiply Reaumur by 9, and divide by 4, then add 32. Registering thermometers are not only of the utmost value in the garden and the greenhouse, but the most interesting of all philosophical instruments, not even excepting the barometer. You can get excellent instruments for minimum and maximum of Mr. Cox, 5, Barbican, or of Negretti and Zambra, Cornhill, London.

WALTONIAN CASE.—*W. H. D., and others.*—It is no fault of ours that the Waltonian Case has had no place in our pages this season. The experiments made by Mr. Hibberd, with a view to substitute a candle for the lamp, were quite successful, and we have seen the candle which Messrs. Price and Co. are manufacturing for it, and which is called (we know not why) "Sherwood's for Waltonian Case." Mr. West, the maker, is now constructing the case to suit these candles, and one of the new construction ought to have been in our possession two months ago. As we have not yet received it, we can only thus casually refer to it, though by this time hundreds might have been sold if Mr. West had taken time by the forelock. The Waltonian Case is figured and described at length as follows—"Rustic Adornments," p. 167; "Garden Favourites," p. 104; "FLORAL WORLD," February, 1859.

GLOXINIAS.—*Mrs. Gillispie* will find, at page 10 of the January number, some notes on gloxinias. The best time to start all this class of plants is the end of January—the heat should be gradual at first. They quite enjoy the moist heat of a cucumber bed or that of a tan pit. The place to be heated is, we presume, by the tone of the query, merely to be kept safe by a temporary contrivance. The best of all is a Waltonian case, because, while it keeps out frost, gloxinias, achimenes, etc., may be started in it, and every other kind of spring propagation set in action. One of those portable stoves which burn patent fuel, with a pipe to carry off the fumes into the open air, would be cheaper, and quite sufficient.

GREENHOUSE VERMIN.—*A. T. B.*—Your plants are beset with thrips, and indicate a bad state of health. Give more air, and syringe the plants with tepid water, in which a little size and soft soap have been dissolved, and in a few hours afterwards, syringe again with pure tepid water, or use a solution of Gishurst compound, two ounces to the gallon. Small plants so affected should be put under a sea-kale pot, with a little spirits of turpentine in a saucer, and then submitted to a gentle heat. The best method of keeping all such enemies at a distance, is to be rigid as to cleanliness.

PLANTING.—*Bob.*—Trim off jagged and bruised roots by cutting the parts clean away with a sharp knife. Tread the hole firm; throw in some fine and rather dry stuff. Then thrust into the space under the collar some lumps of stiff soil, so thatthere will be no hollows among the great divisions of the root; fill up so as to cover all the fibres close with the finest and driest of the soil, and tread very firm. Instead of one stake, it is better to use three lengths of tarred rope, fastened to pegs in the ground, in the way that stays are put to a flagstaff.

STEPHANOTIS FLORIBUNDA.—*T. Gurney.*—This should be managed in the same way as Mandevillea suaveolens. It will winter in a temperature of 45° to 55° and must be kept rather dry. During its growing season, it requires a temperature of 60°, increased steadily to 85° as the season advances, and the more heat the more water. In a cold greenhouse it may not perish, but it never comes to any good. The proper soil is equal parts loam, peat, leaf-mould, and silver-saud. It is a grand plant for a warm conservatory when it reaches the roof.

NAMES OF FERNS.—*J. M. B.*—1. Scolopendrium ——— (?) 2. S. endivifolium, very beautiful. 3. S. multifidum, the best of the varieties of this section. 4. S. undulatum. 5. S. ——— (?) 6. S. angustifolium, an interesting variety. 7. Polypodium cambricum, a fern of exquisite beauty, and striking for its vivid green colour. 8. P. serratifolia. 9. Doodia ——— (?) 10. Polystichium ——— (?) 11. Asplenium ruta muraria, an interesting British fern. 12. Scolopendrium bifidum.

HEATING A GREENHOUSE.—*Y. M. S.*—A house measuring 12 feet by 6 feet is not sufficiently large to need hot water; a flue will serve the purpose well, and be cheaper and simpler. The sides should be brick in preference to wood, and the cost but little different. Four-inch work will do.

FLOWER BORDER.—*G. Johnson.*—Back row, Zelinda dahlia; in front of that, White Unique geranium; then Tom Thumb; and in front, Lobelia speciosa. Back row, Captain Ingram dahlia; next, Ageratum; then Attraction geranium; and in front, Cerastium tomentosum.

VALLOTA PURPUREA.—*A. B. C.*—Plant in autumn, and manage as directed at page 14 of last month's number.

VARIOUS.—*M. J. J.*—The seeds were distributed long ago, and none of them are left now.—*N. S.*—We don't know the plant you name.—*J. R.*—Hovea purpurea may be cut in after flowering. Hard wooded plants come on fast in peat, and if the purchaser gets them before they are lanky, he may do well with them. They are grown to sell. The article on "Weeds" had Mr. Chitty's name attached by mistake, Mr. Chitty wrote the charming paper on ferns. Some parts of Epping Forest are very rich in ferns.—*J. F., Coventry.*—There is no thoroughly good book on bulbous flowers, and a great many points must be cleared up, both in botany and horticulture, before such a book can be written. Belladonna.—Lilies must be planted in July.—*S. S. S.*—For the first, send to Messrs. Dray and Co., London Bridge; the cost will be from 7*s.* to 10*s.* For glass of all kinds send to Messrs. Phillips, 180, Bishopsgate Street Without. A hand syringe should have a small tube near the handle, and they are always made so. The size of a greenhouse depends on the spot it is to occupy. Look over the papers on the subject in last year's volume, and judge by the estimates and plans.—*Frome.*—The papers have only been suspended to make room for others of seasonable value. To find the editor of *The Field*, the "Strand, London, W. C.," will be sufficient. Shall always be glad to hear from you—*S., Waymouth.*—Can't do it. We started on the plan of sticking close to horticulture, and we *have* stuck close. We shall see you some day, and orally thank you for your hearty good wishes.—*H. N. O.*—Yes, as soon as possible. Such instructions are needed. —*N. Maltby.*—Any good seed-list will give you the information you want. It would be a waste of space for us to print the list you propose.

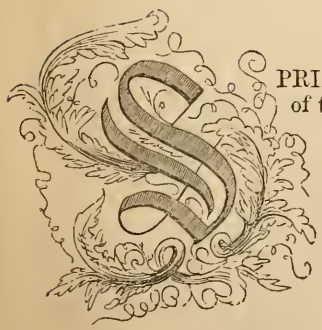
THE

FLORAL WORLD

AND

GARDEN GUIDE.

March, 1860.



PRING will always be a hopeful season, in spite of the storms, the frosts, the biting winds, and many atmospheric changes with which, in this country, it is annually ushered in. To the world at large it is the advent of verdure, and colour, and song; for the greening meadows, the opening flowers, and the merriment of a million birds awaken the eye and the heart to the perception and appreciation of natural beauties; but, to the gardener, it is a season of severe preparation, the losses sustained during winter have to be made good, new plans and processes are to be put to the patient test of practice; and after so severe a season as we have now nearly got through, there is a more than usually heavy amount of arrears to be made up. The excitement of preparations at home is in no way lessened by a reflection on what is going on abroad.

What shows are we to have this summer? What new bedding plants are to be taken into the system of decoration? What novelties are to be received "for better, for worse?" What new annuals are to be trusted to the beds and borders? What, among the many of the best old flowers, are to be thrust aside, as superseded, or retained as still invaluable?

One thing is certain, that novelty and excellence do not always come together. Of the thousands of novelties offered us every year, but a very small per centage remain to enjoy a permanent place in the lists, and a still smaller per centage achieve the distinction of becoming famous Nevertheless, every year adds to the resources of the horticulturist; every year accomplishes some improvement for the flower-garden, the kitchen-garden, the fruit-garden, and the conservatory. From time to time a star does arise with peculiar brightness, to shine long and lustrously in the wide firmament of flowers; and among the number of new candidates for favour at this moment, a few are certainly destined for distinction.

Nearly all the good things we now cultivate were novelties once; and if they had not been extensively tested by those willing to incur the risk, must have passed out of culture along with thousands of other things that were never worth it. It is absurd to pronounce a thing worthless simply because it happens to be new, as it is also absurd to expect every new introduction to be worthy of any higher rank than the kinds already established in the class to which it belongs. Upon these points, some strange fallacies are, nevertheless, prevalent, and the foundation of them all is in that hasty generalization which the untrained mind has always blindly followed. We remember receiving a very abusive letter from one of our readers who had grown Princess of Prussia fuchsia at our recommendation. We were charged with the most abominable motives for having said a single word in its praise. We are too cautious in recommending novelties, to have much to fear from this class of hasty denunciators; but we are well aware that the sophistry on which such denunciation is based is far too common. The reasoning in such a case takes this shape—"The plant has not proved good in *my* hands; *therefore*, it is worthless, and should not be grown by anybody." Before we accept any man's estimate of the value of a plant, we should require to be satisfied of his ability to judge of its merits, and if his dictum is the result of his own experiences with it, we should want to be assured if he knew how to grow such a thing at all. It is not by individual testimony that any plant is to be accepted as valuable, or cast aside as rubbish, but by the united evidence of many competent persons, all of whom are disinterested in all that concerns the commercial features of the case. For this reason, it is the duty of all who desire to keep pace with an age of improvement, and who wish also to improve the age, to test for themselves the merits of new plants, and especially of those to which they are in the habit of devoting special attention. If *all* the growers were to wait till the character of a plant was established before venturing to include it in their orders for stock, it is evident that it would never be established at all. The risk of failure must fall somewhere. Why should the many be privileged at the expense of the few?

We make these remarks at a season when novelties are sent out in more than usual numbers, in the hope of extending the sphere of experimental gardening among those of our readers who possess the means and facilities necessary for determining the relative values of new subjects. The few, *very few*, traders who vamp up false characters, and indulge in superlative terms of praise in regard to novelties, deserve not only discouragement, but extirpation; but it is far from just to visit upon the trade at large the discredit that belongs only to a small and obscure section.

We the more gladly encourage amateurs to include in their lists a few of such new plants as attract their attention, because, in looking over the catalogues, we observe that there is greater caution used in descriptions, and less heedlessness in giving guarantees. The merit of a seedling fruit, or florists' flower, is not to be determined hastily, nor by a few isolated instances of success or failure in its cultivation. A reckless race after novelties will not be indulged by any man possessed of proper caution, nor need any one rashly invest money and time in the trial of new subjects when there are plenty of established sorts to choose from. Make up your mind to see many failures; but be sure of this, no respectable house specu-

lates in the dark, or offers things known to be worthless as improvements on existing kinds. Before a new esculent or exhibition flower comes into the market, it has undergone a system of proof, for the very act of raising stock is in some sort a guarantee of goodness. The ultimate trial is a matter of time. In a few years such roses as Isabella Grey, Eugene Appert, President, and Madame William *may* be put out of cultivation as worthless, but they may, and very likely will, be in the enjoyment of a fame equal to that which encircles the General, the Giant, and Devoniensis, each of which have had to endure their share of abuse from those who failed to make anything of them, or who attempted to proscribe them as useless innovations. If there were not some adventurous spirits to give encouragement to botanical travellers, raisers of hybrids, importers of foreign productions, and the venders of things not yet in history, there must be an end to progress in horticulture; and, *cæteris paribus*, as the sphere of encouragement is widened, so the first prices of novelties will be reduced, and thousands may have a good rose, or a good chrysanthemum, or a good grape or melon in its first year, instead of waiting until the first hundred purchasers have made their vague reports. More than this, there would be less excuse for extravagant panegyric in offering new plants, and we should have a better chance of getting descriptions true to the letter, and the sale of a few subjects of real worth would pay better than the sale of many in which a large proportion had no value at all.

NOTES OF THE MONTH.

The exhibition of Camellias at the Vauxhall Nursery of Messrs. Milne and Co., has attracted very large numbers of visitors. The plants are in unusually fine condition, and still remain so; therefore, those of our readers who are growers of this best of conservatory plants, and who have not yet made their pilgrimage to Vauxhall, may yet enjoy the pleasure of an inspection of the best collection in London. At the Highgate Nursery, arrangements are making on a more extensive scale than last year for the annual exhibition of Hyacinths. The show will be at its best about the second week of this month, and will be worth a visit any time from this date to the beginning of April. Messrs. Cutbush are large growers of all the hardy flowering bulbs, and have always given considerable attention to the best modes of displaying them in the open ground; so that, in addition to the exhibition in the hyacinth-house, visitors will see the best varieties of early tulips, and other spring flowers of the same large and important class. The arrangements for the exhibitions of the Horticultural Society, the Pomological, the Crystal Palace, and the Royal Botanic, are all completed, and intending exhibitors may obtain schedules on application. The gardens at Kensington Gore are progressing with good speed. Mr. Eyles has been fully occupied since his appointment in preparing his programme, and in completing the preliminaries to his active assumption of the important duties of his position. For the first time during many years, the Horticultural Society has a sound exchequer; money has not merely been raised, it has flowed into the society's coffers; and the great project of an ornamental garden cannot possibly fail for lack of funds. The Chiswick Garden is to be wholly retained for Experimental Horticulture, and the proving and comparison of garden varieties. We cannot but again wish success to the enterprise; the council have heavy responsibilities upon them, and the future of the society must wholly turn upon the issue of its present undertaking.

THE LATE SAMUEL CURTIS, F.LS.

We regret to record the death of Samuel Curtis, Esq., F.L.S., in his 81st year, at the residence of his daughter, Mrs. Fothergill, La Chaire, Rozel, Jersey. Mr. Curtis was for many years the proprietor of the "Botanical Magazine," which bears his name, and an extensive and enthusiastic horticulturist in every department. He resided for many years at Glazen Wood, in Coggleshall, in Essex, for the conversion of which into an orchard and nursery-ground of great beauty and productiveness, he received the gold medal of the Society of Arts.

Assisted by his daughters, and under the editorship first of Dr. John Sims, and subsequently of Sir William Hooker, the "Botanical Magazine" (commenced in 1787 by the celebrated botanist, William Curtis, the well-known author of the "Flora Londinensis"), continued to enjoy, under his management, a very large share of the public favour. About fourteen years ago he disposed of his interest in the current issue to the present publishers, who have steadily maintained its long-established reputation.

Amongst the residents of the eastern end of the metropolis his name is well known in connection with the Victoria Park, the general laying out of which was executed under his superintendence. His unvarying kindness and urbanity of manner endeared him in a marked degree to most of its habitual frequenters, amongst whom his name is still regarded as a "household word."

The latter years of his useful life were spent at La Chaire, the beautiful residence of his daughter, Mrs. Fothergill, at Rozel, in the Island of Jersey. Here, amid scenes of floricultural beauty, the work of his own hands, and with a mind intent upon improvement almost to the latest day, glided away in peaceful serenity, and untiring kindness to his poorer neighbours, the last days of this true lover of nature.

It is given to but few to secure the warm and lasting attachment of so many friends as the subject of this notice. Those who knew him best, loved him the most; and it is gratifying to know that his last hours were soothed and tended by the unwearied tenderness and watchfulness of some of his many children.

In testimony of the respect in which he was held in the island, we conclude our brief notice with the following extract from the *Jersey Times*, to the correctness of which all who had the pleasure of knowing him will heartily respond:—

"Few men have won more esteem than the subject of this notice. His general disposition and his hospitality and kindness to all visitors, his unobtrusive but unbounded beneficence towards the poor, had endeared him to all who came within the circle of his acquaintance. For a long time past his health had gradually failed. One of his greatest trials was his failing sight, which deprived him of the pleasure of observing the growth and development of the plants and flowers to which he was so much attached. He was a very warm supporter of the Jersey Agricultural and Horticultural Society, of which he had been elected an honorary member. His services were particularly valuable as a judge at the exhibitions, and his observations were always received with interest and attention. He is more widely known in connection with the arrangements and laying out of the Victoria Park. But probably he will be best known and most widely remembered in connection with the publication of the "Botanical Magazine," in which he was coadjutor with Sir William Hooker. We cannot forbear saying, that in Mr. Curtis the island has lost a very worthy and universally-esteemed resident. La Chaire, with its valuable botanical specimens, is the property of his daughter, Mrs. Fothergill."

A SAFE CODE OF POTATOE CULTURE.

I had my potatoes planted last year according to the directions given in your papers on "Profitable Gardening" (F. W. vol. i. p. 225); and having had alongside of those so planted some others put down in the ordinary way, with fresh dung, perhaps you will be interested in hearing the result.

Fourteen yards of a drill of fluke potatoes, planted in ground *manured the pre-*

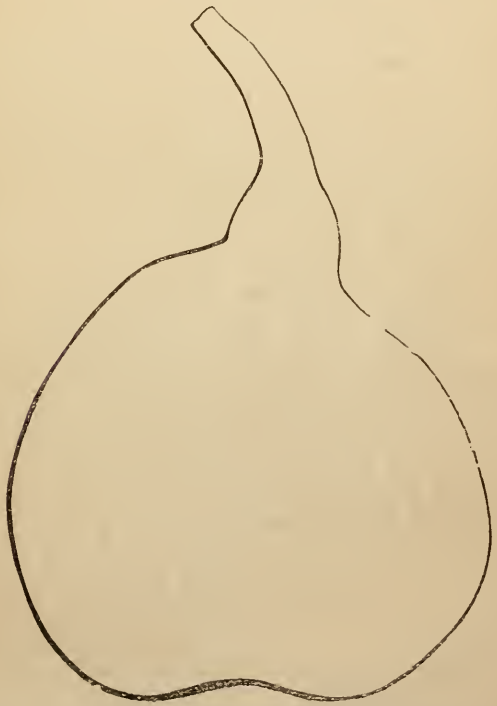
vious season, produced 39 lb. of sound potatoes, without a single diseased one among them.

Fourteen yards of a drill of the same potatoes, kept in the same manner, planted at the same time, and alongside of the others mentioned, but in ground *manured at planting time*, produced only 29 lb. of potatoes, both sound and unsound, of which latter there were several.

The seed in both cases was the same, and kept according to your instructions n the excellent article on potatoe culture ust referred to, and the reason so small a length of drill was weighed was because that was all that was planted with manure at the time of setting in the same ground. I had also red ash-leaved kidneys, a splendid crop, without a diseased one among them, which I am now eating, and which continue as sound as ever, while potatoes planted on the other side of the hedge in the usual way, but in much better, because fresher soil, were one half diseased and far lighter in crop.

ALEXANDER BAYLE.
Upper Wayngrove, Nasbeth.

NEW PEAR.



ZEPHIRIN GREGOIRE.

MR. RIVERS has grown this pear ten years and has found it excellent on all occasions except in 1858, when it was pasty and worthless. M. de Jonghe, of Brussels, speaks highly of it as a pear of first-rate flavour and texture, which forms a very handsome and prolific tree. The fruit is pomiform, and humped near the stalk. When ripe, the skin is yellow-green, with streaks of golden russet. Its season is the end of January, and it requires a little extra warmth to render it fit for table. When well ripened, the flesh is deliciously sweet and vinous, perfectly melting, without grittiness, and every way equal to "Brown Beurré." Mr. Rivers says it succeeds better on the pear than on the quince, and that it forms a beautiful late pyramid.

NOTABILIA METEOROLOGICA.—1859.

While 1859, with all its good and evil, is fresh in our recollections, it will be interesting to note, as briefly as possible, a few of the salient points that have distinguished it from other years.

1. Every one knows it has been a very *warm* year. There was no winter in 1858-9, except a sharp touch of king frost at the beginning, in the month of November of the former year. March was warm, but ended with two severe days, when abundant snow fell and lay on the ground. This heralded a cold spring with easterly wind; then a hot summer, most *unusually* sultry and oppressive in July. The autumn was marked, first, by very fluctuating weather, a large fall of rain, and frequent exhibitions of splendid aurora; then, with the latter weeks of October, began a period of cold, which lasted nearly to the end of the year. The frost of December was exceedingly severe for that month; for six days the thermometer did not rise above freezing, even during the warmest part of the day.

2. If we measure the summer as extending from the last frost *in the air* at night in spring to the first in autumn, it lasted in 1859 from 23rd April to 22nd October. It is generally much colder at night on the grass; and if we measure it by *grass frosts*, it extended from 9th May to 21st October. For twenty-two weeks there was no frost on the grass at night. This is about the same period as in 1858; but, in 1857, this exception lasted twenty weeks, and in 1856 only fourteen.

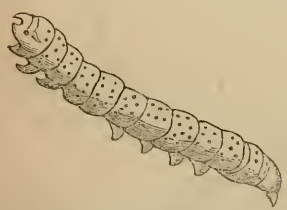
3. The year was remarkable for its severe storms and high winds. It has been a heavy year to the underwriters at Lloyds'; their pecuniary suffering is an index of death and distress to the mariner. The gales of October 26, which devastated the South Devon Railway, and that of the commencement of November, under which the "Royal Charter" perished, will long be remembered. Many of us will recall the tremendous thunder-storm of Saturday, the 2nd of July, which came on between eight and nine o'clock at night, and lasted more than four hours. It was followed by three weeks of intensely hot weather.

Stoke Newington. J. J. Fox.

THE WOOD LEOPARD-MOTH,

A DESTROYER OF APPLE AND PEAR TREES.

On the 9th of September, 1859, I observed one of my young pear-trees broken off just below the head, where the stem was about two inches and a half in diameter. I at once suspected the cause; and, upon examination, found that it was owing to the boring of the grub of the moth called Zeuzera æsculi, which had eaten a tunnel



of more than a quarter of an inch diameter quite round the stem, deviating, I believe, in this instance from the usual instinct of its family, which rarely guides them to proceed so far in a horizontal direction as to endanger their own safety, their course being generally in an upward direction, by which they avoid the entrance of rain into the cavity which they form, and do not render the tree so liable to be broken off by storms as when bored horizontally. Some years ago, I found one of these grubs in the branch of an apple-tree by noticing the "sawdust" and excrement voided by it; and, having cut off the branch, kept it in moist earth until the grub had become a chrysalis, when I placed it in a cage, and in due time the moth was hatched.

The grub and moth are both figured by Mr. Curtis in "British Entomology" (Vol. xvi., No. 722). The grub is yellow, regularly covered with black spots, the head and tail being black or very dark chestnut, about two inches long. The moth is whitish, sprinkled all over with purple or nearly black spots; the abdomen black, with white bands; thorax marked with three black spots on each side.

Mr. Curtis states that he has been much puzzled to know how such large moths turned in their burrows, and made

their exit by the small holes which they formed when they first issued from the eggs. I think I can clear up this mystery. In order that it may turn with facility, the grub either makes a transverse burrow below the top of the vertical one, by which means it can, by a retrograde process, turn its tail up the vertical tube and its head downwards; or it cuts the vertical burrow twice or three times the width of its own body, by which it can turn with facility. I have specimens of both contrivances. Its objects in turning are, probably, to enlarge the orifice in proportion as its bulk increases; secondly, to keep it clear of sawdust, etc.; and, lastly, that its head may point downwards before it assumes the pupa state, as it would be impossible for it to make its exit backwards.

In order to preserve the grub which I recently found, I bored a fresh hole in the pear-tree with a gimlet, and put him in it, but it was not cut quite to his liking, although plenty large enough, so he thrust his body out again, and set to work with his own admirable apparatus, and soon made it as smooth as a flute; and there I expect he will soon assume the pupa state.

As this is a very destructive insect to the pear, apple, horse-chestnut, and several other trees, it ought to be carefully searched out and destroyed, by thrusting a wire up its burrow until one ascertains that it has been punctured, by its internal fluids sticking to the wire.

The only natural means I know of subduing this pest and its ally, the goat moth so destructive to young oaks in the larva state, is the green woodpecker, which I believe to be attracted to the infested trees by the strong scent with which the grubs are endued; yet such are the perverseness and ignorance of many persons, that this beautiful and most useful bird is shot down, frequently with no other motive than to be nailed up at the end of a barn —*Pomological Society's Journal.*

CHIMONANTHUS FRAGRANS.

In the shrubbery, almost the only ornamental trees in flower during February and March are the Chimonanthus fragrans, or winter flower, which produces its delightfully fragrant flowers from December to March, though they are in the greatest perfection about February, and the Lonicera fragrantissma, or spring-flowering honeysuckle, the blossoms of which are delightful in a bouquet with violets and lily of the valley. This very interesting plant (the Chimonanthus) was introduced so long ago as 1776; but, as it was at first supposed that it would not live without protection, and as it will not flower till it is of a considerable size, it was very little grown. At last it struck some cultivator that, as it was a native of Japan, it might very possibly live in the open air, as many plants from that country are found to do in England; and it is now found to grow freely in the open gardens in the neighbourhood of London, and to produce abundance of flowers, particularly if trained against a wall. The flowers are yellowish, with a purple mark at the bottom of each petal, and they appear before the leaves, which are of a smooth shining light green. There are two varieties: the first, which is common, has the flowers much larger and handsomer than those of the species, but not quite so fragrant; and the other, which is very rare, has the flowers much smaller, and entirely yellow. In China and Japan it is said that at great banquets pieces of the Chimonanthus are laid by every plate. Plants of this shrub may be procured in most of the nurseries, where it is known best under its old name of Calycanthus præcox.

WATERPROOF GARMENTS.—CLIMATE OF GREENOCK.

I send the annexed recipe, thinking it may prove useful to some of your readers, and especially to those among them who are much exposed to the weather. I may mention that I have had both coat and trowsers done with it, and never found it let in wet even in the most unfavourable circumstances.

"*Waterproofing.*—The subjoined recipe for waterproofing cloth, without in the least degree making it impervious to the air, is taken from an old 'Mechanics' Magazine.' If the manufacturers could be induced to apply the solution while the cloth is in the web, it would be much better done, and any cloth would be easily

waterproofed. 'To waterproof any sort of cloth or made garments all that is necessary is to make a very weak solution of glue or size (when cold it is weak and tremulous, about the consistency of calves' foot jelly), and while hot stir in a piece of alum till the taste of alum is distinctly perceived, when the piece is to be taken out, at the same time to add a little soap also, or rather soap-suds, to it, and then, while it is hot, to brush over the surface of the clothes with this solution. The preferable mode, however, is to waterproof the cloth while in the web. In this state it can be dipped into the solution, and afterwards wrung out, or, what would be better still, passed through a pair of squeezing rollers, and the pile of cloth afterwards laid smooth with the brush and cold water. The use of the soap is to take away the hard feel that the size when applied alone would impart to the cloth, and which would also render it more difficult for the tailor to sew. The process on the large scale is, besides, an exceedingly cheap one. There is little labour required to pass a web of cloth through squeezing-rollers, and not only is the sizing material in itself cheap, but only a very small portion of it is essential to the waterproofing of a surface of cloth, as the greater part of it is expressed by the squeezing-rollers, only as much being left in the cloth as to cause it to feel damp. Exposure to the air in the same way as sized paper is dried, completes the process of waterproofing.' "

I cannot let this go without telling you how much I value the FLORAL WORLD, and, though I cannot do much to assist it, I show my willingness by subjoining herewith a comparison of the climate of the island of Cumbrae and Greenock.

	Cumbrae.	Greenock.
	Deg.	Deg.
Mean temperature, Dec., 1859	37·3	35·7
Mean of the highest	40·	39·5
Mean of the lowest	34·6	32·
Highest in the month	46·	50·
Lowest ,, ,,	24·	19·
Total fall of rain	2 in.	7·75 in.

Cumbrae is about eighteen miles from Greenock, and now (Jan. 20, 1860) there are primroses in bloom in some of the sheltered places; indeed, they have been since October.

Greenock. JAMES MILLER, Jun.

A LASTING HOT-BED.

As the season has arrived when gardeners and amateurs will be busy making preparations for the cultivation of their favourite hot-bed flowers, I have taken this opportunity, as an amateur, to suggest, through the medium of your valuable periodical, a plan for making a hot-bed which will retain a steady heat for months together, without any trouble further than that of making it.

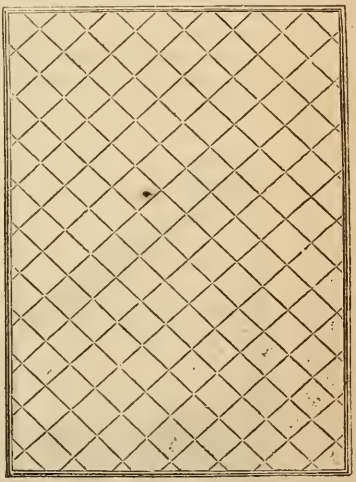
Although the article of which it is composed is not conveniently procurable by all, still, to those who are fortunate enough to be within its reach, I think it will be of vast service. At any chemical works, where commercial soda-ash is manufactured, there is a waste, technically called soap-waste, and which will be gladly parted with by the proprietors free of any expense. This waste, when thrown into a heap, heats in a day or two, and retains a good steady temperature for months together, and, in my opinion, would form a superior hot-bed to any yet in use for the raising of tender and half-hardy annuals, and forwarding other plants for the borders for the summer months. No one knows better than I do the annoyance to which many amateurs are often put in being obliged to make up so many hot-beds during the spring months and the early part of summer, a labour which is absolutely necessary to be done by every one who is at all ambitious of bringing their plants to the greatest perfection. Now, a hot-bed of this material will, I confidently believe, save all this trouble, and will serve the purpose infinitely better, so far as the regularity of the heat is concerned. As I have plenty of the article at hand, I intend making the trial next month, and shall be happy to record my success, or otherwise, at some future time.

I am induced to make these suggestions now in hopes that some of your readers will give the "waste" a trial. To those who have small greenhouses I think it will be of great service.

ROBERT RUSSELL SMELLIE,
Wellington Chemical Works,
Musselburgh.

A DELIVERANCE FROM PEA-STICKS.

It is astonishing how patiently we bear annoyances that the merest effort of the inventive faculty would remove *instanter*. Is there a gardener anywhere in the country who has not always looked on pea-sticks with a sort of rror, and secretly wished that people would do without peas, that he might be rid of the bother of growing them? There is no crop that grows with more certainty, and which, at the same time, gives more trouble—the trouble of obtaining sticks, the trouble of storing them, or having them lumbering the frame ground or the yard, or bringing down the roof of the shed by their weight, and then the trouble of chopping them into firewood when their season's service is over. No wonder a dish of peas costs the gardener more labour than a sack of potatoes. Near London, where people have to pay a shilling a bundle for pea-sticks, and often have to submit to have them carried through the house, and stored in a corner that is already choked up with brooms and trellis-poles, and all sorts of similar roomy lumber, it is sometimes better to trust to the greengrocer for peas that are scarcely eatable, than incur the bother of raising a crop at home. We have just made acquaintance with a remedy for this nuisance in the wire hurdles made by Mr. T. P. Hawkins, of 27, Dale End, Birmingham. We have obtained a supply for use on our own ground, in order to accomplish neatness and be rid of the vexation of pea-sticks. These hurdles are very cheap, and, with proper use, will last a lifetime. When done with for the season, they can be packed together into a small compass, and be stowed away next the wall, in any shed or outhouse, ready for use at a moment's notice. In a flower-garden, they are just the proper things on which to train sweet peas, or a fence of roses or chrysanthemums, for they are almost invisible, are very firm, and admit of being covered with an even growth of foliage and flowers.



The figure represents a single hurdle. Their measurements and prices are as follows:—6 ft. × 4 ft., 2*s.* 8*d.*; 6 ft. × 4 ft. 6 in., 2*s.* 10*d.*; 6 ft. + 5 ft., 3*s.* 3*d.*; 6 ft × 6 ft., 4*s.*

THE WALTONIAN CASE.

We expressed a regret last month that we were unable to present our readers with drawings of the Waltonian case, as adapted to Mr. Hibberd's improvements. The case came to hand soon after that number was printed, and it has been in action under our inspection for three weeks, and we can testify to the entire success of the plan of propagating by the heat of candles. As many new subscribers may not have read the description of the case given in our issue for February, last year, we will here very briefly explain the nature of the construction, which will, doubtless, also prove interesting to those who are the possessors of cases, and would like to alter them so as to get rid of the lamp and all its annoyances.

Let us first premise that the principal object of the improvements is to render the case so far self-acting, that the most inexperienced possessor who has yet to learn the art of propagating can scarcely fail to succeed, even from the first. As originally made, some persons found it impossible to manage the lamp so that it would burn more than two or three hours; those who could trim it so as to burn twelve, eighteen, or twenty-four hours, complained that the lamp was a dirty contrivance, so that, to beginners and adepts, it was alike desirable to substitute for it

some more certain and cleaner source of heat. Mr. Hibberd first tried Palmer's No. 6 night-light, which burns twelve hours, and found that to answer admirably; but as this required to be burned in a tall lamp, its use was inconvenient. Nevertheless, it may be made a note of, that this kind of candle serves the purpose well.

Trials were also made of Palmer's minimum candles, burning nine hours, which, at the utmost, gave only 60° of heat, and on an average only 50° during mild weather; and these were discarded as too weak for the purpose, though for striking such things as Cerastium tomentosum, and other hardy plants, and forwarding seeds requiring only a very moderate temperature free from fluctuations, these are also useful. Messrs. Price and Co. then made some ship candles of various degrees of heating power, and among twelve different kinds, Mr. Hibberd pronounced three of them to be eminently suitable, giving a heat of 80°, and continuing to burn twelve hours. There was still one difficulty to be surmounted, and that was to get the supply of heat at a moderate price, for the last-named candles could not have been sold at less than half-a-crown per dozen, which would have made the working of a case cost almost as much as the plants would be worth. Mr. Wilson, the manager of the company, then prepared a large form of the candle known as Sherwood's, and these are now to be had from the company, or from Mr. West, of Surbiton, Middlesex, who is the manufacturer of the Waltonian cases. Thus, the only objection that could be raised against the use of Waltonian cases was brought to an end, and, as now constructed, the amateur may leave home without anxiety as to the progress of his seeds and cuttings; he has but to give directions that at such an hour a fresh candle is to be lighted, and the most unintelligent domestic can keep the machine in action until his return.

In the diagrams which illustrate this article, Fig. 1 is a view of the apparatus as it appears when in use. Its dimensions are as follows:—From end to end inside, 34 inches; from front to back inside, 17 inches; superficial area, 568 square inches. Height inside at front, 10 inches; at back, 13½ inches. The bottom of the frame externally is 7 inches from the ground, and its appearance is particularly neat and compact. As originally made, there was a tin box suspended in the front for an oil lamp. That is now superseded by a box with a bottom of perforated zinc, and a sliding glass in front. In this box is placed, for heating purposes, the candle, made in the fashion of a Child's night-light, but with more substance for continuous burning and supply of heat. The perforated zinc admits air to keep the candle burning; the glass enables the cultivator to see if the candle is burning properly. To set the case to work, the top lights are lifted up; an inch depth of silver-sand is laid down and wetted; the boiler is filled by pouring water into it through a tube in the centre, and the candle is lighted.

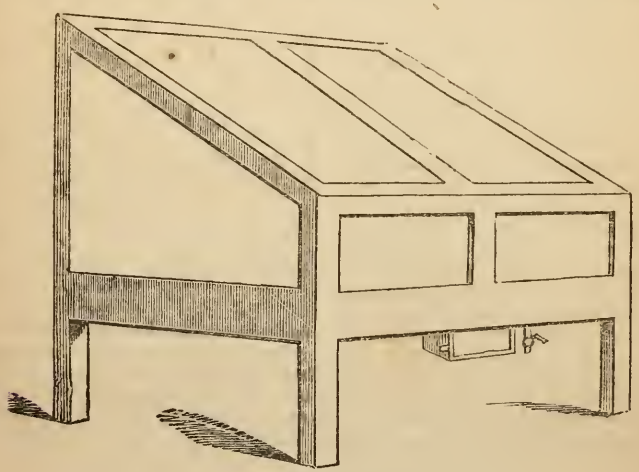


Fig. 1.

Pots of cuttings, seeds, etc., may then be crammed together on the bed of sand to enjoy a moist bottom-heat, and the amount of air to be given is regulated by the top

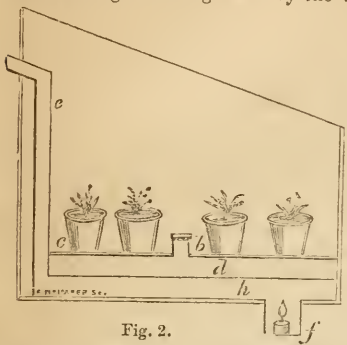


Fig. 2.

lights. Fig. 2 is a sectional side view of the case when at work.

Let us now take the case to pieces. When the lights are removed, and of course the pots also, the tray, on which sand is spread, may be lifted out by means of a couple of handles for the purpose, and its appearance is represented in Fig. 3, in which A is the boiler which gives heat to the tray B B, on which the pots stand; C is the tube by which the boiler is filled. The tube has a stopper which can be removed so as to fill the case with steam, if the cultivator chooses to give the cuttings a vapour bath. If the sand is kept regularly wetted, there is no occasion for its removal, except to fill up the boiler, which holds about two quarts. The boiler is heated by the passage of the hot air from the lamp passing through it, and the hot air escapes (not very hot, by the by) at D, to which, when at work, a small pipe flue, E, is fixed, so as to carry the products of combustion out of the case. It makes so little smoke (even with the lamp) that a piece of new board placed against the end of the pipe flue was but barely coloured, after having received the smoke upon its clean surface for three months continously. The boiler is emptied by means of a stop-cock, F, which is an improvement for which we are indebted to the maker, Mr. West. There is no occasion to use this stop-cock unless from neglect in changing the candle the heat has declined, when the cold water can be drawn off and a fresh supply of hot water takes its place, and of course the tap is useful when the case is put away when its work for the season is over. The box, G, is that already described as the receptacle of the candle, and thus the circle of appliances is completed.

Those who have never seen a Waltonian case will, perhaps, be still further assisted to form a correct conception of its

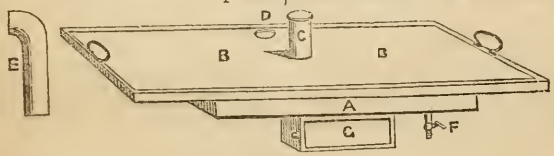


Fig. 3.

construction and use if we turn the tray upside down, as in Fig. 4. Here, as before, A is the boiler, B B the under side of the tray, in which the pots stand, F the stop-cock, G the glass front, and H perforated bottom of the candle-box.

The value of this invention for propagating limited quantities of stove and greenhouse plants, is increased by the certainty and cleanliness of the source of heat. One word to certain folks who have lately made inquiries about this case. It will start seeds and cuttings of every kind of stove and greenhouse plant in common cultivation, but it is neither a melon-pit nor a fern stove, nor will it, as many seem to imagine, serve as a house in which to grow plants on after they are rooted, nor can they be bloomed or fruited in it. It

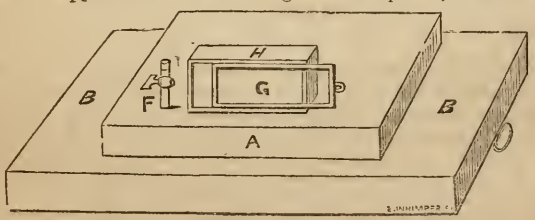


Fig. 4.

is a propagating case, and nothing more, and in that sense the best contrivance ever devised for those who manage their own gardens, and who want only a few hundred plants for summer decoration, and to whom the chief delight is to raise stock for themselves. S. H.

PERPETUITY OF TREES.

De Candolle and others at least maintain that trees are not individual plants, but bodies corporate, and as such may live for ever; that each bud on a tree represents, and in its season produces, an individual tree-plant, which, fully equipped with all the appurtenances of a perfect plant, with stem, root, leaves, and flowers, and bearing fruit or forming buds, or both, lives but a single season—shooting up in spring and dying in autumn; that thus dying, root and branch, its constituent parts wither and are cast off, save only the roots and the buds, which remain attached to the parent stock—the roots—permanently, to add to the store of timber already amassed, and which is nothing else than a mass of roots; the buds temporarily, for the evolution of the plants, on the same stock, the following season; and, further, that this formation of buds and evolution of plants going on successively, year by year, in endless perpetuity, there is no natural limit either to the size which any tree may attain, or to the number of years it may live. What was said or sung long ago by Homer of the race of man, while it expresses the very same idea, exhibits in the comparison used a parallel the exactness of which must have commended itself to the mind of De Candolle:—

"Like leaves on trees the race of man is found,
Now green in youth, now withering on the ground;
Another race the following spring supplies;
They fall successive, and successive rise;
So generations in their course decay,
So flourish these, when those are passed away."

THE CULTURE OF CHOROZEMA.

This is one of the most beautiful and interesting of the New Holland genera, beautiful as many of them are, and being all of them worth the cultivator's attention. The soil which I should recommend for this tribe of plants to be grown in should be two parts turfy peat, one part light loam, and one part sand, with a little well rotted manure. The whole should be well mixed together, and cut with the spade, but should not, by any means, be sifted, as sifting, in my opinion, destroys the most valuable portion of the soil, and instead of the soil being porous, as it ought to be, it is rendered small and close. The more open the soil, the firmer will the plants grow, and the longer they will continue to grow with vigour; so that the stronger the fibre, and the more that is in the soil, the better for the health of the plants. In nature there is no such thing as sifted soils; for whenever we find the soil close and unporous, we never find the plants in a healthy condition; but when the soil is light and porous, we find the plants always strong and healthy. To those who wish to grow fine plants, I should recommend wide and shallow pots, as plants of this sort never go deep into the soil, especially if they can have plenty of surface room to run in. Many plants of this tribe are often lost by having too great a depth of soil; they extend their roots as well as they do their branches. The plants, when they have plenty of surface room for their roots, are generally low and bushy; but when they are short of surface room for their roots, they are weak and spindling, and almost destitute of leaves or branches. When potting, a few large potsherds should be laid at the bottom, and over them should be laid some turfy peat or the roots of the common fern, as that will form excellent drainage, and also prevent the soil from getting among the potsherds; and the roots, at the same time, would have to run amongst the loose pots or drainage. Great care should be taken in watering, especially in the autumn and winter, as the plants are then done growing, and the roots are in a state of repose. If much water is given at that time, the roots will rot, and the plants will become sickly, and very often go off; and if they live after the points of the roots are rotted off,

it will be a long time before they recover themselves. I should, therefore, advise those who have the care of plants of this description to be careful how they use the water-pot in the autumn and winter, but in the spring and summer they may have plenty of water. If the plants are well drained, I should never advise any person to turn them out of doors, but to keep them in the house or pits, and give plenty of air night and day, if the weather is mild; for if they are turned out of doors, they often get scorched with the sun or drenched with the rain, which are both very destructive of the health of the plants.

The best time to propagate this genus of plants is in the spring and summer; that is, when the young shoots have made about four to five leaves, or rather joints, that is, of the large-leaved species; those shoots destined for cuttings should be slipped off with the finger and thumb, as that brings the lower joint along with the cutting. Any bark that adheres to the cutting from the old wood should be taken off with a sharp knife, and the little knob, which forms the end of the cutting, will form the roots when the cutting is put in the pot. With regard to the small-leaved, or rather heath-leaved species, the cutting should be taken off when the young wood is about an inch and a-half long; they should be taken off in the same manner as is recommended for the larger leaved species. In the pots in which the cuttings are to be put at the bottom should be placed some potsherds, and over them should be some turfy peat or moss, to prevent the sand from getting amongst the potsherds; the pot then should be filled up with very fine white sand, and gently watered, and be pressed lightly down; and when it is firm and well settled down, the cuttings should be inserted. All round the edge of the pot should be left as much room as will admit of a bell-glass being put on. They should be gently watered overhead before the glass is put on; they then should be placed in a gentle bottom heat, and the glasses dried every morning, so as to prevent any damp lying about the plant. A little water should be given them when they want it. Great care should be taken with the shading of them, for if the sun touch them, they will not recover it soon. The cuttings will strike in a short time, and when they are all well rooted, they should be potted off immediately into thumb-pots, and shifted as often as they require it, so that the plants may never become stunted. If care be bestowed upon this genus, it will repay the little trouble that is taken with it by a fine show of flowers.

Where this tribe of plants is grown, as little fire as possible should be used, as they do not like artificial heat; but they would frequently do much better if they were kept dry and without fire for the most part of the winter, and only a little used when the frost was severe. They are pretty hardy when kept rather dry. It is when the soil is wet that the frost hurts them; therefore, when they want water, it is better to give the water early in the day, so that it may be dried off by night. In the spring, when the plants begin to grow, the house or pit in which they are grown should be kept rather close and warm, that they may get a good start, and that they may be enabled to make their growth as early as possible, so that their wood may be well ripened before winter. When the wood is well ripened in the autumn, a good show of flowers may be depended upon the following spring and summer. That the plants may be kept in good health, and without much fire heat, or rather without any, the water used for watering should be as near the temperature of the house in which they are grown as possible, or rather above than below it; for if they are watered with very cold water, it is apt to chill the roots, and give a check to the plants, which they will not easily recover.

P. N. Don.

PREPARATION OF COMPOSTS.

Have an out-of-the-way airy spot, and there collect upon occasions the top spit of a turfy-loam; with this mix, layer for layer, the wet litter and sweepings of the stable. Let it lie for some months, then chop it down small, and throw it into a heap. In frosty weather turn it over, and do this for a couple of years. Obtain from the cowman of the fields a load of cow-dung, and submit this to the same treatment until it becomes simple black mould. Erect in some suitable place a little shed, open back and front for the free admission and circulation of air. Fit

this up with some rough bins. Fill one with turfy-loam and dung when well amalgamated, as directed above; another with the old cow-dung; another with some good peat, not obtained anywhere or anyhow, but well selected, from its containing abundance of vegetable fibre. Now, here are the foundations for compost to grow anything in. Some will say I have omitted leaf-mould. Much as it will surprise many to hear it, I have no hesitation in saying I dislike it. I have always found it at every age the home of grubs and their larvæ, and I never find the plants root in it as well as in a proportion of such peat as the above-mentioned. Let no one be deterred by imagining that the above arrangements will involve much expense, or be offensive to the eye of neatness. A few rough fir-poles will form the shed, and a very little contrivance will make it ornamental as well as useful,—covered, as it may be, by a honeysuckle or a rose. When once a stock is obtained the florist will be sure to have his bins replenished as they are exhausted; and no one that knows the comfort and advantage of having a variety of soils ready for mixing for immediate use would give up the plan. I should add, that a stock of the sharpest, cleanest silver-sand that can be obtained should be at hand, and if kept covered over so much the better, especially if the spot be frequented by cats.

E. Beck.

OUT-DOOR MELONS.

"Cut your garment according to your cloth." Good. But, while we strictly follow this golden precept, there is nothing to prevent our cutting out as useful and as handsome a garment as the size and the quality of our cloth will allow. Now, times and seasons are the web out of which that clever tailor, Man, contrives to carve and put together a number of ornamental and commodious accessories, which are to his household arrangements and his material welfare in general what the clothes he wears are to the screening and the decoration of his person. To different men, different lengths and breadths of cloth have been given, some with a broad margin, some with hardly any margin at all. But if I, out of the material afforded by an ordinary (not an inclement) summer, and the open ground, can contrive to fashion vestments, or agreeable articles to set on my table, which have hitherto been confined to my richer neighbours, who have the artificial summer and climate of frames and hotbeds at their command, surely a little credit will be given me for the ambitious attempt, if successful. It has been successful. The particular item which, last spring, I set my heart upon cutting out of my limited allowance of cloth, was a handsome, well-flavoured melon, grown out of doors in the open ground. From quite a small space, I cut forty, the large majority of excellent quality, and the faults of the minority depending more upon the inferiority of the special variety grown than upon defective ripening.

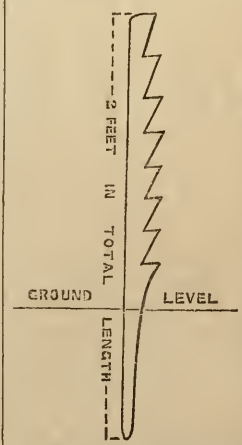
This is a great innovation in melon-culture, which, it is to be hoped, will find imitators. It is founded on the two principles—first, that the melon-plant is capable of more vigorous growth than is commonly supposed. The prevailing notion is, that the melon is a plant of excessive tenderness and delicacy. It is so, as we usually see it treated. According to routine gardeners, the plant must be shut up in a box with a glass lid, and be baked, steamed, and smothered night and day, till it is as much like what a melon-plant could and should be, as a boa-constrictor at a fair in a chest and a blanket is like a boa-constrictor at large in a tropical forest. The truth is, that the melon, when not amputated and vapour-bathed to death, is just as hardy as the cucumber and the gourd; that is, it is not hardy at all. The slightest frost will kill any and either of them; it is equally impatient with them of excessive humidity, especially if combined with chilly weather. As Loudon says, it is a tender annual; so are the others. Treat it like them, and it will equally display its rampant growth and its abundant fructification. Subject a melon-plant to the same free-and-easy and let-alone culture as you do a ridge-cucumber, or a pumpkin, and it will astonish you. And this leads us to principle the second, namely, that we ought to humour Nature, instead of thwarting her. We may direct, encourage, support, and aid Nature; but it must always be by consulting her, and letting her have her own way to a certain extent. Now, the whole cucurbitaceous

family are vigorous trailers, delighting in the emission of long shoots, with plenty of leaves, in all directions, for the performance of which nature has provided them with tendrils. But routine gardeners will try to persuade you that melon-plants must be stopped and pinched till they are prevented from growing in any direction whithersoever; that they must be cut back, and stunted, and pruned, till their constitutional vigour is equivalent to that of a Chinese dwarf oak growing in a pint pot. It often happens that plants so treated come to an untimely end, without fruiting at all. But it should be remembered that the pruning to which we subject a perennial tree, for the sake of bringing it into a certain condition two or three years hence, may be quite inapplicable to an annual plant, from which all that you can expect is an immediate and short-lived burst of vigour and productiveness.

My own gardener, a worthy man, but with some conceit, and a slave to traditional rule, has yet sense enough to consent to garden according to the notions of the person who pays him, and in opposition to his own ideas. If I am wrong, the loss is mine, not his, he says. And it is not every gardener who will condescend to that degree of humility. But I could not get him to let my melons run wild to my liking. When I talked of a single plant, or even a cluster of three planted close together, bearing five or six melons each, and more, if he would only let them alone, he looked me hard in the face, but was too polite to say what he thought of my assertion. Talking was clearly a waste of breath; so, one morning, I said, "Put on your Sunday clothes; I am going to treat you to a short railway trip." At the end of the journey, instead of any further discussion or explanation, I walked him into a garden kept by a small nurseryman, pointed to a mass of luxuriant foliage, amidst which were lying fruits as big as his head, in plenty, and simply said, "There!" I then conducted him to another garden, managed by a sensible and amiable lady amateur, and again said, "There!" He returned a willing convert to the mode of melon-growing which is now about to be detailed.

The problem to be solved is this:—The melon requires about four months to complete the circle of its vegetation from the seed to the ripened fruit. That is the garment which we have to cut out, or to patch up, from cloth of our ordinary summer, which may be stated as consisting of three months of warm weather, *i. e.*, from the middle of June to the middle of September. It is clear, then, that as our natural summer is not long enough to serve our purpose, we must lengthen it artificially; and as, towards the close of the season, the plants have to contend with a constant diminution of light and heat, we find that it is easiest and most seasonable to lengthen our summer at the beginning. So far, we are in accordance with the growers of melons in hotbed frames; and we continue in accordance with them (or nearly so) as long as the artificial period lasts.

But our apparatus is very simple; it consists of a collection of bell-glasses (like those used by the market-gardeners around Paris), made of glass slightly tinged with green, 17 inches in diameter at the mouth, and 13 inches in perpendicular height. I procure them from Douai, and they cost me, after breakage and carriage are paid, about two shillings each. As the top of the bell, where the blow-pipe was attached in making it, forms a sort of bull's-eye, or rude lens, which acts as a burning-glass when the sun is powerful, it is prudent to screen it with a circular patch of white paper, pasted inside the bell-glass, at the top. If bell-glasses are not to be had, hand-glasses will do; try even oiled-paper caps, rather than give up the experiment for want of appliances. For each bell-glass you must have three notched sticks, like that in the cut, to fix into the ground, in order to support the bell-glass over your plant at any given height which may be rendered desirable by the state of the weather.



For young plants, early in March stick melon-seeds, two in each pot, in leaf-mould, and force them as you can; in a hotbed and frame is the ordinary way. I start mine by covering each pot with a cracked tumbler, and putting them to bake on the top of the Prussian stove in my study, watering as required. In a few days, the seed-leaves are above ground, when the plants are re-

moved to the windows, (inside of course) to enjoy the sunshine, and their place on the stove is taken by successional pots. There is a fire in the room every day. When the real leaves appear between the cotyledons, the pots are removed to a south border (weather permitting), to be brought forward and gradually inured to air and light under bell-glasses, which are slightly tilted by day, but let down closely at night. A bast mat or a piece of sail-cloth to cover them is a wise precaution against slight morning frosts. Plants so reared are less weakly and drawn than those out of hotbeds. A Waltonian case would raise melon-plants to any reasonable extent; but however raised, the plants must be hardened by accustoming them to as much light and air as they can possibly bear. We thus arrive at the middle of May, having in hand a good stock of robust melon-plants, destined for out-door culture, to which they are to be gradually habituated. It is by no means intended to turn them suddenly out of doors, plunging them into the raw spring air, as a bather takes his dip in the sea.

As to sorts, the very large kinds of the French market gardens, such as the ribbed Honfleur, are the least desirable. The fruit is longer in completing its growth, and the quality is but second-rate. All the smaller Cantaloups, such as the Noir des Carmes, the little Prescott, and the Silver Cantaloup, answer well. The best flavoured melon I have grown is the Orange Cantaloup, a variety also called by old French gardeners the *Mal Fichu*, or badly dressed; because, on the same plant which will give you a melon of perfect shape, round and ribbed, there will be also deformed or odd-shaped fruits, which look as if their growth had been strangled by a string tied round their middle, and which, though less pretty to look at, are not less good to eat. Observe that the flavour of out-door melons, properly ripened, is superior to that of those from frames. There are also quite small melons, some called American, others the Boule de Siam, and Queen Anne's Pocket Melon, which are worth growing. They may even be trained against a south wall like a vine. The amateur need not be afraid to try melons of the Persian family; the Moscatello, received through Italy, gives satisfactory results. The moderate size of most of this subdivision helps their early ripening, and when ripe they are delicious.

The melon is not over nice as to soil. Give it two-thirds well-rotted manure and one-third good fresh sweet loam, and plenty of them, to grow in, and it will flourish. It must not be placed in a condition at all resembling that of a pot-bound plant. It is said not to thrive in soil in which its predecessors have grown during previous years. As a rule, let the soil be stiff rather than sandy, well manured, and of considerable depth and mass. I have grown a melon in a mignonette box; but the experiment did not turn out an example to follow.

Your plants being raised and ready, it is time to think of their final destination. Towards the close of April, make several conical hillocks, disposed either in rows or in quincunx order, according to the convenience of your ground, so that their centres shall be five feet apart every way, and their perpendicular height, when finished and planted, two feet above the level of the soil. Two or three hillocks will be enough, as a first trial, to convince you of the merits of the plan; and you will do well to reserve a portion of your space for out-door melons to be grown experimentally, otherwise than on the hillock system, of which a hint will be given. It ought to be needless to state that, as the plan here recommended is no mysterious charlatanism, an inch or two more or less in the size and height of your hillocks is of no consequence. The basis of each hillock is a hole, round or square, dug in the ground, half a yard in diameter, and eight inches deep. The holes are then filled, and the hillocks are built up with, either well-rotted manure or the compost above mentioned, carefully piled and stacked into shape and beaten together, in order that they may sink or settle as little as possible, and that they may retain their form and elevation until the month of October. When your hillocks are nicely made and rounded, cover them to the depth of six or seven inches with a stratum of earth rich in vegetable mould, stiffish rather than light, and prepared, if possible, a year beforehand. If your soil for this outer coating is too compact and clayey, mix it with old leaf-mould, or better, with heath-mould, until it is friable without being light. In default of earth thus prepared, good kitchen-garden mould will do. The melon-ground is now ready to receive its inmates.

In the middle of May, or earlier as a venture, slightly level the tops of your hillocks, so as to make a little platform on their summit; in the middle of the platform scoop out a round hole, and in it

plant one or more of your seedlings, turning them out of their pots adroitly, so as to keep their balls of earth entire. If you want a few melons only of the largest size, plant only one seedling; if you prefer a liberal supply of moderate-sized fruit, plant three. I recommend the planting of three, in preference to one or two. Water them, and cover them close with a bell-glass. You may have given the first pinching to your plants while still in pot, before turning them out. Once for all, let me state emphatically, that all the pinching and pruning which I, the writer, would allow, is this, and no more: When your plants have made five true leaves, nip off the top of the shoot with your thumb-nail, leaving four. From the axil of each remaining leaf a shoot will probably start; when each shoot has made six or seven leaves more, pinch again, leaving five or six leaves. After this, and the thing is done. When the branches peep out from under their bell, give the pinchings directed, and do not let any of the old school persuade you to remove another leaf.

The bell-glasses remain suspended over the crowns of the plants the whole summer long. This is a very important point; they serve both as a night-cap and an umbrella, protecting the most impressionable portion of the plant, the collar. The notched sticks admit of varying the height of the bell from the ground, according to the heat of the weather. When the blossoms appear, it is quite needless to fecundate the fruit-bearing flowers with those which produce pollen only; Nature has provided sufficient agents for that in the insects and the summer breeze. I also advise you not to thin the fruit; let your plants bear all they can; for, in fact, they really thin themselves. *You* may, perhaps,

pinch no more; let your plants run wild and matted. If, towards the close of summer, they encroach too far beyond the base of their hillocks, chop off the ends of the branches with a spade, exactly as you would trim a grass-plot that was encroaching on a flower-bed.

After these two operations of the first pinching and the planting-out, your plants will sometimes appear to stand still for a fortnight or so, and their vegetation to languish. Do not be uneasy on that account; perhaps they are working hard unseen, at the root. Cover at night with mats, if spring-frosts threaten; admit air by day; carefully weed your hillocks, and give them a slight scratching; then encase them with an overcoat of well-rotten manure, an inch and a-half thick. As soon as the warm waters of the Gulf-Stream have reached the coast, and there is a prospect of fine and settled weather, raise the bell-glasses on the notched sticks

remove a fruit that would have come to maturity, while you may leave one that is destined to turn yellow and drop. After a fruit is set, if you cannot see it grow from day to day, you may be almost sure it will come to nothing. When a melon is half-grown, it may be supported on the side of its hillock by means of a little piece of board, as in the accompanying figure; it may also be covered with a bell-glass, which, however, is more easily done on a horizontal surface than on a slope.

In hot and dry weather, you must water, with a fine-pierced rose, over the leaves and all; although the melon-plant dreads wet, it loves a tepid bath. Use no admixture of liquid manure, but take care that the water is at least as warm as the atmosphere. Do not wait for the leaves to flag before you water. Long-continued rains and cold fogs are more difficult to contend with than drought the plant becomes surcharged with water,

turns dropsical, and either dies or is attacked by serious disease. If a spell of wet summer weather sets in, the best thing that can be done is to form a sort of tent over each hillock, with three long rods or poles, meeting at the top and covered with mats or old sailcloth. The mountain-shape alone of your melon-beds ensures a dry subsoil in ordinary seasons.

It requires some practice to know when a melon, arrived at ripeness, is fittest for table. The sorts vary a little in this respect. When a melon is dead-ripe it is generally too far gone; the juice has oozed out of the flesh into the middle of the fruit, amongst the seed. It should be taken while the juice is still retained in the cells of the flesh.

In frankness, I must state that this experience has been gained on the continent; but also in a latitude which, though south of London, is north of the Isle of Wight, with a ruder climate than that of the south of England, and with no shelter but Norway and Sweden from the icy blasts of the North Sea, success has been obtained in opposition to the prophecies of neighbours, very stand-still folk, and in spite of the remonstrances of gardeners, who declared that out-door melons had never been grown in *that* country, and consequently never would. But one-third of England might do the same; the greater length of the days northwards is a compensation for the shorter summer. At Ispahan, even, the melon does not find a high temperature constantly maintained without remission, like that which old-school forcers aim at; it has hot days and cool nights. The night temperature of our southern and midland counties, from the middle of June till the middle of September, is sufficiently high. In fine summers, our days are hot enough for its prosperity. In cold, wet summers, like those of 1838 and 1844, the melon is a failure all over France, and therefore we ought not to be discouraged by its failing in England in such exceptional cases.

The culture of the melon on hillocks is the invention of Monsieur Loisel, the director of the gardens in the domain of Clermont-Tonnerre, and a member of the Horticultural Society of Paris. His little book on the subject (in French) is worth consulting. But it was his father who set the first grand step, by asserting that the melon plant ought not to be severely pruned, as is generally practised, but with great forbearance. In consequence, he gathered six or eight fruits from each plant, whilst his neighbours only obtained two or three. Loisel's treatise (now in its third edition) has led to the out-door culture of the melon in the north of France, where it was never attempted before. It will surely have a fair trial in England during the coming summer; but, as the whole secret lies, not in the hillocks (upon which Loisel insists so much, and which are particularly adapted to the English climate), but in the absence of sharp pruning, and of steaming, and stifling, melons may be successfully planted in the flat, open ground, well dug and manured, or on sloping beds; of course, in the sunniest nooks, and well sheltered from high winds, which smash the foliage, and cause irreparable damage. Those who are set up with frames and hotbeds may also apply the principle, by treating the plants as usual (save the pinching and the pruning), gradually increasing their exposure to air, and removing the lights altogether towards the end of June. E. S. Dixon, M.A.

Gûines, Pas-de-Calais.

GRAFTING THE CAMELLIA.

Camellias are now frequently grafted in a manner first practised in Belgium, but afterwards greatly improved in the nursery of M. Soulange Bodin, at Fromont, near Paris, and which has the advantage of producing flowering plants much sooner than by any other plan. This mode of grafting, which is called *graffe etouffee*, may be practised at any season, and on a stock of any age, from the cutting of a year old to the long-established plant, provided it be healthy, and of sufficiently small size to be grown in a pot. There are two modes of performing this kind of grafting, the first which is called *la graffe etouffee en fente*, and which is a kind of cleft grafting. The head of the stock is cut off close to a leaf, which has a strong healthy bud on its axil. The cut is made sloping upwards to the leaf; and on the preservation of this leaf and bud, a great part of the success of the operation depends. The stock is then split, in face of the leaf and bud, to a depth equal to two-thirds of its thickness, and the scion, which has been previously cut with a sharp knife into the shape of a wedge terminating in a narrow point, is inserted. The

heart of the scion stock, and that of the scion, are united as closely as possible, and the two are tied firmly together; the wound in the scion, where the head was cut off, being covered with pitch to prevent the possibility of any moisture entering the wood, though no pitch is allowed to touch the point of partition between the scion and the stock, lest it should prevent the uniting of the bark. As soon as the operation is finished, the pots containing the stock must be plunged into a bed of tan, lukewarm if it be in the spring, and hot if it be in winter, and covered over closely with a mat or hand-glass. The glasses ought to be taken off every second day and wiped, as too much humidity will make the young plants damp off, and the glasses may even be left off for an hour or two occasionally, if the plants appear too moist. The second mode of performing this kind of grafting, and which is that generally practised in autumn in Belgium, is called *la graffe etouffee en placage*, or *la graffe des Belges*, and is a kind of side grafting, or rather of inarching. It consists n cutting off the head of the stock, or the end of one of the branches, in a slanting direction, leaving a leaf and a bud above the cut on the higher side, and then cutting the scion into a slanting shape, so as to fit the wound in the stock exactly, and binding the two closely together with a strip of bast matting, but without using any other covering. As soon as the operation is finished, the pot containing the stock is laid horizontally on a bed of dry tan, or on a bed of dry moss, the branches lying on the surface, and the pot being half buried in the tan or moss; the grafted part being covered with a bell-glass, stuffed round the bottom with the moss or tan, so as to prevent a particle of air from entering. This close covering is kept on for a fortnight, three weeks, or a month, according to the season; at the end of which time the graft will be found perfectly united to the stock. Air is then admitted to the graft by degrees, by first lessening and then removing the moss from the glass. The glass is afterwards taken off, and the pots set erect.—*Mrs. Loudon's Gardening for Ladies.*

HEATING A WALTONIAN CASE.

I BEG leave to forward to you the results of a variation or two that I have tried in the mode of heating the Waltonian case. The disadvantage of the oil-lamp it is not necessary to dwell upon. Looking for some substitute, I tried a Paraphine lamp. The success equalled my expectation. The lamp I used was one of semi-opaque glass, commonly sold in the shops, of which the expense is only two shillings. It holds one-third of a pint of Paraphine oil. This will burn from fourteen to sixteen hours without trimming, and not then be quite exhausted. I have frequently burnt it the latter time. Trimming is more simple and cleaner than trimming an oil-lamp. A boy has attended to mine for weeks together, without a failure. The cost is rather less than oil, the price of Paraphine being only 3*s.* 2*d.* a gallon. But it is necessary to use a glass chimney with this lamp (the upper end of which is just inserted within the bottom of the outer tin case), and occasionally one breaks, though rarely with proper care. They cost from 2*d.* to 3*d.* each. I estimate the expense on this score at 1*s.* 6*d.* per year. There is no fear of the lamp going low in the night, and too much heat being lost. I have frequently kept up a heat of 70° for sixteen hours at a time without touching the lamp.

There is one, and only one, evil to be guarded against. If the flame is the least too high, there is an intolerable deposit of soot. The remedy is simple. The flame elongates as the lamp and all around gets hot. At lighting, get a full flame, and then reduce it to almost one-half. It will soon increase to a sufficient height, but very rarely smoke. A little practice will perfect this detail.

I have two lamps, which are trimmed every morning, and changed at bed-time. This arrangement is convenient, but not necessary.

But I have tried another experiment, still more simple and economical, and with equal success. I use merely two kettles of hot water, and nothing more. I effect the object thus:—Between the bottom of the tin case and the board on which it rests I have placed three or four folds of coarse flannel. The space round the sides of the case is closely packed with wool. Other folds of flannel are laid on the top of the case, between it and the tray for the sand. The whole aim is to prevent the quick escape of heat by radiation, by surrounding the case with a slow conduct-

ing medium. The case is filled in the morning with boiling water from a large tin kettle taken off the kitchen fire. Before bed-time, this is drawn off by a tap, and refilled from the kettle. A young girl does this work. I can keep up thus an average temperature of 70° to 75°. Of course the heat would be increased by lessening the flannel and filling oftener. But I have not found it necessary. On cold nights the heat has gone down to 60°. To remedy this, I use the simplest lamp possible. It is a wine-glass, half full of water and half full of oil, bearing one of the German floating wicks (of which two or three hundred may be had for a shilling). It will burn twelve hours, and keep the heat in the case itself at a quite sufficient height. If more heat were requisite, two floats might be used. But I have found one do all I required in the coldest of our spring nights, and in a room where there never was a fire. The number of folds of flannel may be modified at will. The more there are, the less the temperature, but the longer kept up; but always the bottom and sides of the case should be more packed than the top.

I am so satisfied with the working of this system, that I shall resort to no other. The trouble is not more than trimming a lamp twice a-day; the cost hardly appreciable; it would be measured by the cost of a tin kettle once in three or four years. The method is so inartificial that it requires neither nicety nor care. A young girl does all the work for me. As soon as there is room at the kitchen fire, the kettle is put on; when it boils, it is substituted, through a pipe and funnel, for the water just drawn off. All that is required is just to ask if the work has been done, to avoid slips of memory, The result is uniform and satisfactory.

HUGH FORD BACON.

The Vicarage, Castleton, Sheffield.

THE "TROPÆOLUM" *TOM THUMB SCARLET* AND "ŒNOTHERA DRUMMONDII NANA."

THE observations in your last number by "C. B. K., Ireland," on the merits of the Tropæolum Tom Thumb, and the demerits of the Œnothera Drummondii nana, have surprised many of the readers of the FLORAL WORLD. He remarks, that in the Tropæolum, "*orange* does not predominate, as was feared it would," and that the "Œnothera Drummondii nana has proved a decided failure." Both these assertions are directly opposite to what has been proved in this neighbourhood, and the remarks of the Editor, which immediately follow, are quite in accordance with our views. The Œnothera above-named was used extensively in the gardens of Condover Park, Salop, which were truly magnificent last season, and were most generously thrown open to the public once a-week, by the proprietor—an example we could wish to see followed by most country gentlemen who have in their power such a recreation to afford all lovers of the FLORAL WORLD. The Œnothera nearly surrounded one portion of the gardens, and formed a brilliant belt of yellow, giving a charming and distinct outline to the boundary of the grounds. The Tropæolum *scarlet* (?) was also used in the same gardens, and the shade of orange was so apparent that very little difference could be detected between it and the old bright orange-scarlet nasturtium which we have seen growing rampant over trellis-work, years gone by. The only novelty in it, and its chief recommendation is, its dwarf habit and its profusion of bloom, and when edged with Lobelia formosa forms a very showy bed; but to use it as a substitute for either Scarlet geranium or Scarlet verbena, we should be sorry, indeed, to be driven to such an extremity. The rich soil of the Emerald Isle may possibly give a brilliancy to the flower, but this is very improbable; should it be the case, we trust your correspondent will take advantage of so favourable a climate, and make the most of it. We should much regret to see the time when any attempt should be made in this country to give it a place in preference to our old favourite the Scarlet geranium.

R. T. E.

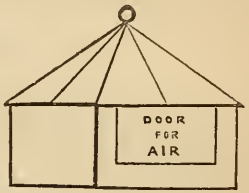
Shrewsbury, Feb. 3.

[We said Tom Thumb would have a strong tint of orange in his face long before we had him in bloom, because botanical analogies are against a true scarlet ever coming from the race. (See F. W. vol. ii. p. 119.) The dwarf Œnothera is a valuable thing where the soil suits it.]

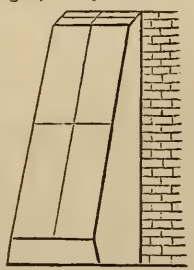
VARNISHED COTTON AS A PROTECTION FROM FROST.

At Kingcausie, Kincardineshire, the residence of J. I. Boswell, Esq., about seven miles west from Aberdeen, I have a plant of the Clianthus puniceus, growing in the open air, on a wall at one of the porter's lodges, where it has stood our severe climate five years, with a slight protection during frost in winter. The plant has grown vigorously, and it now covers nearly nine yards of the wall; is about twelve feet high, and has bloomed every season very profusely, especially last summer (1859). It was very much and justly admired, for it was covered over with several hundreds of beautiful long crimson racemes. Now I wish to give a short account how I protected it during the severe frosts of winter, with the results of two different coverings. I have a frame made of inch board, one foot broad at the top and two feet broad at the bottom, making an angle or slope of 12 inches upon 12 feet. The two sides are of this size, and another board over the top, with a little slope to run off the rain water. Other two boards on the front, one at the top and the other at the bottom, to support a rafter or bearer, placed in the centre from top to bottom for my sashes to rest upon. I have the sashes divided into upper and lower, for convenience of removing or drawing up or down to give air. My lower sashes are glass, and the upper is a light frame covered with cotton cloth twice coated over with copal varnish. During the very severe frost in the end of December last I had my glass covered over with Russian mats, while there was nothing over my varnished cloth, and the result was that all the young wood under the glass was frosted, and but a few leaves touched opposite the cloth sashes. I also have it in use as a protection for some of the tender early-flowering hybrid rhododendrons, as they will scarcely stand our northern winters without some sort of covering.

My plan for this is like a hand-glass with a moveable top. The size of this contrivance must of course depend upon the height or breadth of the plant to be covered. The size of my frame is six feet square; the top or roof is varnished cloth, and the sides are made of boards painted green; they look like small ornamental houses or tents, and have no disagreeable



appearance either on a lawn or flower garden, and may conveniently be stowed away into a shed or any dry place when the winter is gone. I have the four sides made separately, six feet long and three feet high, which fasten together at each corner with a pair of hooks. On the side facing south I have a door or opening for air which is not closed except during severe frost. I would be glad to know, through any of your numerous readers and correspondents, their experience of varnished cotton as a protection from frost, as I intend to use it on a pretty large scale, as protection of some sort is so much needed during our severe winters; and, if this has the desired effect to exclude the frost, it has some advantage over many other coverings, as it is quite transparent, light, and portable; has no unsightly appearance; is easily stored away when not required, and not liable to breakage. It is not very expensive, and, as far as I can judge, is pretty durable.



The annexed figures will serve to illustrate the modes of protection. That fitted to the wall can be easily extended any length, or reduced, as circumstances may require.

P. Simpson, Gardener
Kingcausie.

CHEAP AND BEAUTIFUL ORNAMENTS.

A FEW years since, a box of autumn leaves, selected for the beauty and variety of their tints, was sent to the wife of an American ambassador at London. She wore them as ornaments, and they attracted much attention and admiration, our brilliant forest autumnal leaves being unknown in England. Since then, packages of these beautiful leaves have been sent over every autumn to fashionable ladies in London.—*Western Times* (*U. S.*)

REMINDERS FOR MARCH.

Artichokes should now be planted from strong suckers. Choose those that have plenty of roots, and remove the hard portion from the base, and trim away the lower leaves. Turn a pot over each, and keep well watered till they are established.

Asparagus to be cut without forcing should be liberally top-dressed.

Auriculas are now growing in earnest, and must be protected from biting winds. Water liberally, as weather permits, and liquid manure once a week. Look out for green-fly.

Azaleas done blooming, trim up, and clean with tobacco-water or Gishurst compound if affected with scale. Repot those that have exhausted the soil in the old pots, and set them growing at once in a moist and gentle heat.

Achimenes, start at once, if not already at work. Plant in sixties when the shoots are two inches long.

Annuals, sow in small quantities, to be succeeded by further sowings in April and May. Get a few choice sorts, both hardy and tender, forward in a propagating house for a little early bloom.

Bulbs in pots, keep well watered, and shade as soon as the blooms are well coloured. Soot-water once a week will strengthen those throwing up.

Calceolarias must have plenty of water, and be kept clear of fly. If autumn-struck plants get pot-bound, they are likely to perish when bedded out.

Carnations and *Picotees* look poor this season, and must have a little extra nursing to enable them to recover from the effects of the severe weather. Pot for blooming at once, but wait till the first week in April to plant out in beds.

Cinerarias require plenty of water and a comfortable temperature with good ventilation. Use the syringe to the foliage of these and calceolarias. As the seedlings bloom, get rid of all the inferior plants, and mark the best for seed.

Conservatory is not too forward, and needs moderate heat to keep the permanent occupants in health. Keep up the supply of flowers from the abundance the season affords to choose from.

Cytisuses are now very gay, and make a beautiful contrast to the colours of primulas, cinerarias, and hyacinths. Allow none to swell pods of seed, unless seed is wanted, as it weakens the growth of new wood. After flowering, ill-shaped plants may be cut back and refreshed with a top-dressing.

Dahlias.—Keep moving and strike cuttings as fast as you can get them, of the best sorts. This is the best month for amateurs to begin with them.

Fruit-trees in need of protection must be provided for at once, or the crop may be lost. Shelter them with netting or tiffany before the blooms expand, as the embryo fruit is frequently killed in the bud.

Melons in bearing must have liberal fire-heat and plenty of water. Give full light, and train regularly. You cannot have good fruit without first a liberal surface of foliage. Sow for summer culture.

Pelargoniums must have plenty of light and full sun till in bloom. Give air, steadily increase the heat, and close early. Keep the plants as clean as if they were already on the exhibition-table, and give weak manure-water about every ten days.

Pines come badly-coloured in cloudy weather, so let them have all the light possible. Shift young stock, and mix half-inch bones with the loam, to keep it rough and open.

Potting should be performed in a systematic manner. Have the crocks sorted in sizes, plenty of broken charcoal and half-inch bones, clean pots, and pot *firm*.

Sow every kind of kitchen crop according to the space of ground and wants of the family, remembering that two small sowings are mostly preferable to one large sowing. Think more of succession than quantity. The market-grower wants a glut at once, but the private consumer a dish every day.

TO CORRESPONDENTS.

MISTLETOE.—*A. B. C. Cherrywood.*—Mistletoe may be propagated by grafting as well as by seed; and the proper season to graft is the month of May. The trees on which the grafts take best are the apple, pear, lime, poplar, and willow. On the oak it rarely thrives, perhaps never by artificial propagation. To graft the mistletoe, choose a fork of the tree, or a healthy horizontal branch, not less than six feet from the ground, and not more than twelve feet. The graft must consist of a slice of wood, with only one bud and leaf at the end. Insert this in an incision made in the bark of the tree, and tie over with bast, and cover with grafting clay. Pieces of the thick stem of mistletoe, which will make grafts half an inch thick, should be inserted after the method of crown grafting, in a notch, and the graft cut with a shoulder to fit on the notch. Cactus plants may be watered now, if in a warm house; if in a cool house, merely to keep them, wait till they show signs of growth, as the atmospheric moisture is sufficient to keep them alive till then. We cannot name ferns from imperfect specimens: yours appears to be Polystichium angulare.

HERBACEOUS FLORISTS' FLOWERS.—*W. C. Nash, M.D.*—You cannot do better than obtain "Garden Favourites and Exhibition Flowers," in which there are full lists of all the best carnations, picotees, polyanthuses, etc., with descriptions of colour and habit, and treatises on their cultivation. Then, from those lists, choose a few of the most distinct colours, and make practical acquaintance with them by blooming them yourself. It is impossible to give minutely accurate descriptions of flowers in writing, because of the numerous gradations of tint and tone among them. You do not say how high is the pedestal of the sun-dial, nor what is its diameter. How are we to judge of plants for it without knowing first how much space there is for them to cover? Perhaps Tropæolum peregrinum would serve the purpose. Ceanothus papillosus is a charming evergreen climber for such a purpose, if the position is a warm one.

SULPHATE OF AMMONIA.—*H. A. C.*—All luxuriant growing plants like sulphate of ammonia. For plants in pots, use a quarter of an ounce to a gallon of water, and administer not oftener than once a week. Grape vines, fuchsias, petunias, and other fast-growing plants in pots, will be improved by it, but geraniums are apt to become gross, except the variegated kinds, which need more stimulus than common ones. For kitchen crops, it is best used in a liquid form, half an ounce to the gallon, or it may be thinly strewed as a top dressing for cabbage, cauliflower, peas, beans, lettuce, etc. Bone dust is best used in the drills, when seeds of kitchen crops are sown. Six pounds are enough for thirty square yards, if sown in the drills with the seed; if sown broadcast, use ten pounds to thirty square yards.

MYCELIUM OF FUNGI.—*Rose.*—If the soil of your rose-bed contains no rotten wood, the mycelium will probably disappear. We think you have mistaken the mildew which is met with in half-decayed dung for the terrible pest. It is true that the roots of standard roses are more liable to be affected by mycelium than any other trees, except some kinds of pines, and in several parts of the country whole plantations of pines and firs have been destroyed by it. We advise you to leave the roses alone for the present. Next November take up all that appear sickly, trim away, by a clean cut with a sharp knife, every portion of root which has white threads on it, unless the whole root is covered, in which case you must be content to wash them well. Then replant, and fill in the holes with fresh turfy loam, and mulch the surface with three inches of half-rotten manure. Your other query is answered by an article. The lecture will not be published.

PEAR-TREE UNFRUITFUL.—*R. Gregory, Gretton.*—A tree that flowers freely may be unfruitful, either through being so much exposed that the spring frosts destroy its young produce, or the roots of the tree may be in such an ungenial soil that there is not a proper sap action between them and the leaves to bring the fruit to maturity. We do not understand what you mean by the tree being "bored." As the tree is on a clay subsoil, it has probably sent down a tap root into that subsoil; if so, it is not surprising it should prove unfruitful. The only advice we can give is to wait till next November, and then dig a trench round the tree, and undermine it on one side sufficiently to get at the tap root, which must be cut through with a chisel. Then fill in the trench with fresh soil, and be careful to lay out the surface roots with care, and it will probably give a crop the next season.

PLUMBAGO CAPENSIS.—*J. R.*—The angle of greenhouse to be covered with Plumbago Capensis contains about thirty square feet, and faces south-west, and you propose to plant in a large pot, and train as fast as you can get growth to lay in. Take our advice, and abolish the pot, which, however large, will so cramp the roots that the plant will never grow as you wish it. Plant it out as you would a fruit-tree, with plenty of stuff for its roots to run into, say good loam, with one-fourth of leaf-mould or turfy peat added. If it is not convenient to give the roots a good border, box in a space with rough boards sufficiently large to hold four barrows of stuff. Give plenty of water all summer, and use the knife judiciously to get a surface growth. If you persevere in using a pot, we predict a failure. Clematis Sieboldii would do for the same purpose, and look charming.

TRADE CATALOGUES.—"E. G. Henderson and Son's Seed List, 1860." This well-prepared catalogue of ninety-six pages is as full of interest as it is full of subjects, and, if carefully looked over just now, many suggestions will arise out of it for the present season's planting. Among the novelties are the following:—Lychnis Haageana, which we figured last summer, and described as a charming border-flower; Linum candidissimum, a white flowering flax; Mellville's auricula-flowered Sweet Williams, an advance in the right direction; three new varieties of Dianthus, from Japan; three new Bouvardias; Ipomœa limbata elegantissima, a new and lovely hybrid; Michauxia campanulata, a new hardy border-flower, five feet high, with white flowers, habit like Campanula pyramidalis; hybrid Pyrethrums, and many very choice greenhouse and stove shrubs, herbaceous plants, etc., etc., in addition to the regular stock for greenhouse, flower, and kitchen garden.—"Hooper and Co.'s Spring Catalogue, 1860." This is the Covent Garden house, which supplies Loomes's Cable Edging, Pascall's cutting and fern pots, hair-pins for pegging, the new crystal label, Gidney's fumigator, all sorts of patent manures, shading and miscellaneous appliances. The seed-list is alphabetically arranged, and is preceded by some notes on culture that may be read with profit.—"Milne and Co.'s Priced Catalogue of Kitchen Garden, Flower, and Agricultural Seeds." A short summary of the best varieties in each of the several classes, and a sufficient list of annuals for all ordinary purposes.—"Select List of Kitchen Garden and Flower Seeds, Roots, etc., sold by Edwin Cooling, Mile Ash Nurseries, Derby." Like the last-named catalogue, this is short and sweet, but nothing of orthodox utility left out. It is well arranged, and prettily printed, and contains a very good selection of hardy, greenhouse, and stove plants, at reasonable prices.—"James Carter and Co.'s Gardener's Vade Mecum." An enlargement of Messrs. Carter's usual spring list, with cultural

directions for almost every genera of plants, of which the seeds are entered. Thus the reader sees at a glance the habit, character, mode of culture, and best style of displaying the numerous subjects offered for his choice. Among the novelties are some more of the Tom Thumb section of Tropæolum, yellow, yellow-spotted, etc., for bedding and ribbon lines.—"Hylton Floral and Horticultural Society's Prospectus, 1860." A well-prepared set of rules, and a promising schedule of prizes for the show to take place next August. We hope the substantial people of Hylton will subscribe liberally, so that there may be abundant means to encourage the growers of the district. We are pleased to see a good list of subscriptions already.

NAMES OF PLANTS, ETC.—*J. M. Parsons.*—Your pretty alpine is Saxifraga staticifolia.—*H. F. B.*—The plant which bothers you so on the lawn is Knapweed. There is no sure way to get rid of that and the daisies but by spudding them out. If the extent is not very great, we should recommend stripping the turf off, and dressing the surface with fresh stuff, and then sowing down with a mixture supplied for the purpose, from a house that has a good character for grass seeds. You could have a good turf by midsummer. The evergreen is Ardisia crenulata. Among the other evergreens we then had in our minds were Ceanothus papillosus (rather tender), Pernettya phyllerifolia, Gaultheria Shallon, Azalea amæna, Andromeda pulverulenta and floribunda, Berberis glumacea, and Fortuni, Daphne Fioniana, Rhamnus alaternus, Helix arborea variegata, Thuia compacta, Libocedrus Chilensis.

*** When names of plants are not given in answer to inquiries, it must be understood that the specimens sent were too imperfect to be named.

VARIOUS.—*T. L.*—Apply to any of the nurserymen who advertise in this work.—*Subscriber.*—You can get a cover through any bookseller.—*Kate* reminds us that the price of Gidney's housemaid's barrow is £3 10*s.*, and the iron wheelbarrow £1 15*s.* In printing the description, the prices got reversed.—*S. S. S.*—The offer you refer to was not accepted; in fact, the idea was not taken up, as was wished.—*New Subscriber* can see the Waltonian case at Mr. West's, Victoria Road, Surbiton. The best source of heat is gas, the next best the lamp; the candles will not answer for stove-seeds, but for cuttings of chrysanthemums, verbenas, cerastium, and such plants which require but moderate bottom heat, and for seeds of ordinary bedding and border-flowers, they are quite sufficient. Those who fill the boiler with hot water twice a-day need nothing more than the candle to keep the heat up, as will be proved by the thermometer.—*B. B.*—The depreciatory remarks in another quarter are in strict harmony with the principle that "two of a trade never agree;" in fact, they are the expression of personal spite, and the parties are more to be pitied than blamed, for they know no better.—*S. W.*—Letters containing queries, in regard to which time is evidently of importance, are answered privately when they arrive too late, provided they contain real names and addresses, as *all* letters should. But it must be obvious that if we undertook to answer letters indiscriminately in that way, it must be at the expense of the interests of this work, and a terrible sacrifice of time on our part. Therefore, we reserve to ourselves, in *all cases*, the right of deciding whether to reply through the post, or defer till the next publication. You could have written as well before the 18th as after it. Why did you not?

ISMENE, AND GERANIUM TUBEROSUM—*Hyacinthus.*—Any of the Ismene may be grown in the open border, if kept quite dry and safe from frost all winter, and planted out early in April, or in warm places at the end of March. A deep sandy soil, enriched with leaf-mould, suits them best. I. calanthinum flowers in June, two and a-half to three feet high, white. Geranium tuberosum is quite hardy, and will grow in any moderately good garden soil. It does not rise above ten inches, and flowers in July. The prevailing tint is rose.

SHADY BORDER.—*A. S. J.*—You could have a nice collection of ferns on the border, and mixed with them the commonest sorts of primula, Forget-me-not, green and variegated periwinkle, violets, moneywort, Solomon's seal, perennial candytuft, fraxinella, sweet coltsfoot, and lily of the valley. They would all thrive, except, perhaps, the last, which has a will of its own, no matter where it is planted. Dress the surface with leaf-mould and sand, or chopped turf from a loamy pasture. The commonest hardy ferns may be obtained at a few shillings per dozen.

HYACINTH OFFSETS.—*X. Y. Z.*—The off-sets are removed to strengthen the bloom, and because they are of little value if kept to increase stock. If you wish to propagate, let the offsets remain till the bulbs are ripe, and then separate and plant them in August. As a rule, they are not worth preserving; and, therefore, should be removed, without injuring the parent bulb, as soon as they appear. If merely nipped back, they will shoot again.

SANDY SOIL.—*J. D. B.*—To restore fertility to your soil, you must husband every scrap of refuse that will rot into mould. Such soils may be greatly improved by growing on them any fast-growing green crops, such as rye, buckwheat, etc., and digging in the whole of it green, and planting at once. Never let it lie idle; instead of laying it up fallow, sow on it some succulent plant on purpose to turn in as manure. The house-slops and any other liquid manures that are available should be used continuously during summer. Do not use coal ashes on the soil at all. None of the strong manures will be too hot for your soil, if used liquid and well diluted. Good stable dung and loam, if you can get it, are the best refreshers of a solid kind.

PLATYCERIUM ALCICORNE.—*P. H. G., Torquay.*—This grows faster in a pot than on a block, and makes a better specimen, other conditions being equal. If you fix it to a piece of bark, do not attach any such contrivance as a bag, to support it, but tie it on securely with copper wire, or, better still, the soft metallic wire now so much used to attach labels to trees, etc. In the course of time it will hold on in its own way. When so grown, the plant derives nourishment from the atmosphere, and for that reason should be grown in a damp stove. It will do in a warm corner of a greenhouse, if the temperature is constant, but will bear no vicissitudes. To help it, give it an occasional dewing by dipping a hard brush in warm water, and then drawing the hand over the brush near the plant.

FLORAL WORLD.—The second volume, handsomely bound, price 6*s.*, is still on sale. Copies of the first volume may also be had, price 6*s.* Covers for binding Vol. II. may be obtained through any bookseller, price 1*s.* 6*d.*

GARDEN ORACLE.—The issue for 1860 may still be had, price 1*s.* It contains a selection of Ericas to bloom every day throughout the year, a treatise on the culture of Ericas, and articles on annuals, Spergula pilifera and Sagina procumbens, the manufacture of British wines, management of bees, and numerous domestic receipts. The GARDEN ORACLE for 1859 contains a selection of greenhouse plants to bloom every day throughout the year, and numerous important articles on the management of gardens, allotment grounds, the poultry-yard, etc., price 1*s.*

THE

FLORAL WORLD

AND

GARDEN GUIDE.

April, 1860.

BEDDING stock demands just now all the attention that can be given it, both at the nurseries and in private and public gardens. The severity of the winter and its protraction from mid-October to mid-March has severely thinned the stock of all soft-wooded plants, even in the best places, and those who trust to the chapter of accidents in wintering stock in cold pits and unheated houses, have now but little to perplex them, or, rather, are perplexed that they have nothing. To make the most possible of a reduced stock demands the exercise of care and vigilance, and to find substitutes for bedders that cannot be obtained in sufficient quantities needs judgment and calculation. A brisk heat now does wonders among soft-wooded plants, if they are kept in a moist air and with plenty of light, to supply cuttings for propagation; and the work of increasing the supply must be kept up till bedding-out time, so as to insure quantity, even if the quality is not of average merit.

Those who set to work, even at this late period, may, by striking good cuttings of geraniums, calceolarias, petunias, and verbenas, supply themselves with plants quite as good, perhaps better, than the majority of those that are sent out in June at two or three shillings per dozen; and those who are not disposed to purchase, or have not the convenience to secure a supply of bedders by spring propagation, must fall back on annuals to carry them through at least the early part of the season. Good plants of fuchsias to bloom well late in the season may be had from cuttings, even as late as May, and verbenas and petunias struck now will be very little inferior for beds to those rooted a month or six weeks ago. If well treated they will bloom as well, though a week or ten days later. It should be remembered by amateurs that, to get spring cuttings, the plants should first be got into vigorous growth; they require a little forcing and a frequent use of the syringe to get a supply of plump green shoots. The old autumn stems are of little use, but shoots of three or four inches long, or even two inches

long, taken off with a heel, will root immediately in moist sand with a bottom-heat of 70°. Spring-struck geraniums come into bloom so late that the best part of the season is lost before they begin to be ornamental; but variegated-leaved kinds strike well now, and, as their blooms are of secondary importance, those who want supplies may keep their plants at work until summer has fairly set in.

It should be borne in mind, however, that in most places too much heat is used at this time of year, and, therefore, when we speak of putting on extra heat, we mean only as a measure of necessity for those who are badly off as to conveniences and supply of plants. For all ordinary spring propagation a temperature of 60° is quite enough; indeed, a bottom-heat of 50° will bring on cuttings and seeds of greenhouse plants and half-hardy annuals better than one of 70° or 80°, which are considered so essential. At this time of year the amateur enjoys the advantage that he can turn sun-heat to account, and thus, by means of pits and frames, increase the area of accommodation for young stock. The merely consigning plants to a pit or frame set in a south exposure, may or may not be a wise plan, but, if the thing be done according to system, numbers of things may be committed to such structures which are usually nursed a month longer in the greenhouse. To make the most of sun-heat put the frames on raised beds of sand or gravel. The lights must be sound and watertight, and there ought to be a set of canvas frames to keep out frost, such as were described by Mr. Howlett in the Floral World of February, 1859, or, in lieu of those, good mats or thatched hurdles. As fast as cuttings can be had rooted from the dung-bed or Waltonian case, pot them into thumb-pots in generous compost, and let them have bottom-heat for one week longer. Then transfer them to the raised bed of sand, or gravel, or peat, in the frames. A bright, warm, sunny morning must be chosen for the removal. Air them well before taking them from the hot-bed, and quickly transfer them, and at once plunge every pot to the rim in the sand, and finish by watering with tepid water. The heat of the sun, acting on the elevated platform of moist plunging material, will make it warm throughout, and, by regulating the admission of air according to the weather, the plants will show no signs of distress through being removed from their propagating-bed, provided they are properly treated in all other respects. During cold weather give no water, and no air. At the first outbreak of sunshine, tilt the lights, to let off the atmospheric moisture and prevent mildew, and on bright days take the lights off for a couple of hours at mid-day, and take care to close early, so as to shut up some amount of sun-heat. In all houses in which it is desirable to push plants forward, sun-heat should be stored up by closing early, and, if any of our readers remind us that in late autumn we have advised closing as late as possible, we answer that in autumn we desire to check growth, and in spring we wish to promote it. The amount of moisture required by newly-struck plants must depend chiefly on the temperature, but in any case a soddened state of the soil in the pots is sure to do mischief. When water is required, let the foliage have it as well as the roots, and in as dewy a form as possible.

Those who are so fortunate as to be possessed of stock kept over from last year, must now encourage growth by repotting. The old soil must be shaken off the roots, all dead or half-dead roots must be cut away, and the plants potted in as small pots as possible, in a compost many degrees richer than that in which they were wintered. Old, chippy cow-dung, rubbed

through a sieve, is the best of all materials with which to enrich a mixture of leaf-mould, loam, and sand for plants removed from cutting-pots, and one mixture will serve for nearly all kinds of plants used for bedding, with the exception of calceolarias, which require a little peat.

As substitutes for ordinary bedders in ribbons and beds, annuals are coming into general use. The charming Lobelia speciosa, treated as an annual and raised from seed at once, makes a capital first line in a ribbon, and so true is it to its character that, in a hundred yards of a ribbon of it we examined last season, we could not detect half-a-dozen that varied from the nominal type, and those were not perceptibly different to ordinary observers. All annuals that can be raised out of doors, even by deferring the sowing till next month, turn out much better than those raised in heat. In fact, annuals are greatly abused by the general system of sowing them indiscriminately on beds and tanks at 80° or 90°, when an average of 50° suits all the most useful kinds. Balsams and cockscombs must have a good bottom-heat, but there are few others that are worth rearing but will come better at 50° than at any higher temperature. It will doubtless be in the race of French marigolds that we shall find a substitute for the calceolaria, which has been strangely affected for several seasons in succession, so that the best planted beds show gaps from time to time, and incessant labour is requisite to make them good, by means of reserve plants. The yellow Tom Thumb Tropœolum is a variety we expect more from than we ever expected from the so-called scarlet, because there are good yellows in the race already, and a tendency to yellow in all, and the chief merits of the Tom Thumb section, after colour, is in the dwarf compact habit, without which few subjects are adapted for bedding. Other good yellows are—Escholtzia crocea, Œnothera Drummondii nana and Œ. macrocarpa, Cheiranthus Marshalli, Gaillardia bicolor, yellow hawkweed, and the neat trailing Sanvitalia procumbens. We believe the new dwarf French marigolds will, however, take the lead wherever the calceolaria is given to sudden death, and it will doubtless answer well to replace the excellent dwarf Calceolaria aurea floribunda. When true, this marigold is quite double, branching, continues blooming to the end of the season, and makes good plants from seed sown in April on gentle bottom-heat. There are many shades of colour entered in the catalogues, but the kind we are familiar with is one supplied from Paris some years since, the height of which was nine inches, the habit branching, and the blooms a bright gold-yellow. As it belongs to a section of plants very much given to sport, it may be difficult to keep it true, and to attempt to maintain a stock from cuttings is a task we should not recommend to the amateur. But among the old fashioned annuals there are plenty from which to choose for variety of colour, and any one who will spend half-an-hour over the catalogue of any good house may safely select and ensure as good colouring and as good arrangements as to habit, heights, etc., as by means of the established bedders. The great objection to annuals is, that most of them soon go past their prime, and when that prime is over they must either be cleared off, or the ground be disgraced with the rags of their decay. Those who see no prospect, except at an outlay for which they are not prepared, of planting satisfactorily till the season is half gone, may work out their patterns in annuals, and use their bedders as a succession, and on this plan the succession plants may be got into bloom before they are put out, and there will be no hiatus in the display of flowers; or, if sowings of succes-

sion annuals are made about midsummer in a reserve ground, they may be had in good condition to transplant to the places from which the first have been removed, and thus the display be continued till frost once more puts an end to it. For silvery lines Venus's navelwort, Cerastium tomentosum, and variegated mint are excellent; for a back row of deep bronzy-purple Perilla nankinensis is most beautiful, and continues so to the end of the season. In the list of annuals tried last year at Stoke Newington, which will be found in the "Garden Oracle" for 1860, will be found epitomized notes on their culture and uses, which will prove of great value to those who are now in dismay at the thinness of their stock and the lateness of the season. One thing is certain—that there will be a large demand upon the nurseries for bedding-plants, dahlias, and other decorative plants that have been decimated by the winter, and, of necessity, prices will range higher than they have done for several years past.

NOTES OF THE MONTH.

The New Flower-market, Covent Garden.—The great volunteer fête gave occasion for opening to public view the splendid structure erected on the south side of the Opera House, Covent Garden, for a flower-market. The building is of glass and iron, and consists of two arcades on a ground-plan resembling the letter L. Where the two arms meet is a dome and lantern fifty-eight feet in diameter, and ninety feet high in all. The arcades measure respectively 228 feet and 100 feet; the width of the main arcades is seventy-five feet. The cast-iron columns which support the roof are of a most elegant design with ornamental capitals. The arches which carry the roof are trellised, and have an airy, elegant, and yet substantial, character. The arrangements for heating and lighting are most complete, so that it is likely to be much used as a winter promenade, for which, when furnished with its proper fragrant and gay commodities, it will be eminently suitable. The whole trade in flowers now carried on in the market adjoining will probably soon be concentrated in this building, and the flowers will be displayed on raised banks in the centre nave, with smaller ones in the side aisles. At present, very few stalls have been taken, and, like all other similar enterprises, it will need time to establish it.

Horticultural Society.—A design by Mr. Nesfield, for the new gardens at Kensington Gore, has been accepted. Plans of a main entrance on the south-east and offices for the transaction of business have been approved of, and the work of carrying them into effect is in active progress. The great conservatory is expected to cost about £15,000. There were 518 new Fellows elected during the months of January and February. The Editor of the *Gardener's Chronicle* has generously presented the Society with a large account for extra advertising, for which the Finance Committee have entered on the minutes a vote of thanks. At the meetings of the Fruit and Flower Committees the subjects brought forward of late were not of a nature to interest many of our readers, and we have preferred to make these notes brief to give space for matters of more practical importance.

Messrs. Cutbush's Exhibition of Hyacinths.—We have frequently referred to Messrs. Cutbush and Son, of Highgate Nurseries, as the most successful, as well as the most extensive, cultivators of the hyacinth in the south of England. The exhibition held during the past month at the Highgate Nurseries has added lustre to the honourable fame of these celebrated growers, and perhaps there never was so good an exhibition of spring flowers, not excepting even the great gatherings at St. George's Hall, Edinburgh, or at the Botanic Society, Regent's Park. During the continuance of the show,

the hyacinth-house has been daily crowded with visitors, and, thanks to the spirited proprietors, the London people have had within a short distance from home a free feast of flowers, and such as is rarely equalled and never surpassed. There were about 400 varieties, admirably arranged on a raised stage in a lean-to house, shaded with Shaw's tiffany, where they formed a bank of dazzling colour, and the comfortable temperature and moist atmosphere brought out their delightful odour and added much to the charms of the scene. The front sashes were dressed with green baize, and the pots with moss, by which they were wholly concealed. It would amount to a mere repetition of Messrs. Cutbush's catalogue were we to enumerate the kinds of which the show consisted; but the following list includes the most striking varieties in each of the several classes, preference being given to single flowers as, in the majority of cases, superior to double ones of the same or similar shades:—*White* and *blush:* Elfrida, single, creamy blush, admirably shaped; Prince of Waterloo, double, pure white, fine spike; Gigantea, pale blush, single, very large bells; Grandeur à Merveille, pale blush, single; Madame Van der Hoop, white, single, enormous spike; Miss Coutts, single, creamy blush; Orondates, single, white, large spike; Snowball, purest white, single, beautiful form, very fragrant; Tour d'Auvergne, double, pure white. *Red* and *crimson:* Belle Quirine, single, flesh, striped carmine; Florence Nightingale, single, rose shaded with saffron, new and first-rate; Duke of Wellington, double, rose, splendidly proportioned spike; Koh-i-noor, double, crimson, extra fine; Princess Royal, double, red, large bells; Norma, single, soft crimson, charming outlines, and fine scent; Queen Victoria, single, pale pink with deep rose stripes, fine spike; Milton, single, deep crimson, novel; Lady Sale, single, dark red, large spike; Solfaterre, single, orange-scarlet, fine; Susannah Maria, double, salmon-rose, noble spike. *Lilac:* Lord Clyde, single, lilac tinged with purplish-brown, white eye, very fine; Honneur d'Overeen, single, bronzy-lilac, white eye, new; Prince Alfred, purple-lilac edged with black, new and fine; Lady Middleton, lilac-mauve; Prince of Wales, true mauve. *Blue:* Argus, single, indigo, white eye, pencilled, unique; Baron Von Tuyll, single, dark blue; Charles Dickens, single, pale blue, fine bells; Grand Lilas, single, azure blue, splendid spike; Orondates, single, porcelain blue, an old and most valuable variety; Baron Fitzallan, double, porcelain blue, extra fine spike, and delightfully fragrant; Laurens Koster, one of the best double blues, very showy, and of fine proportions; Sir Colin Campbell, double, dark blue, shaded. *Black:* Black Prince, very dark purple, single, superb spike; Prince Albert, dark purple, but lighter than Black Prince, single, and fine; General Havelock, single, opens blue and changes to nearly black, a bold flower. *Yellow:* Anna Carolina, single, clear yellow; Heroine, single, pale yellow. The old (so called) yellow varieties, such as Louis d'Or, are going out of cultivation, and never were worth much. The two named above are the best yellows out.

New Horticultural Publications.—Mr. Moore is about to commence a floral magazine, which is to be published by Mr. Reeve. It will comprise coloured figures, and descriptions of new and rare plants, and will be issued monthly, at half-a-crown per number. Mr. R. Hogg is preparing to publish a monthly work on fruit culture and fruit varieties, which is to be illustrated by Mr. Fitch.

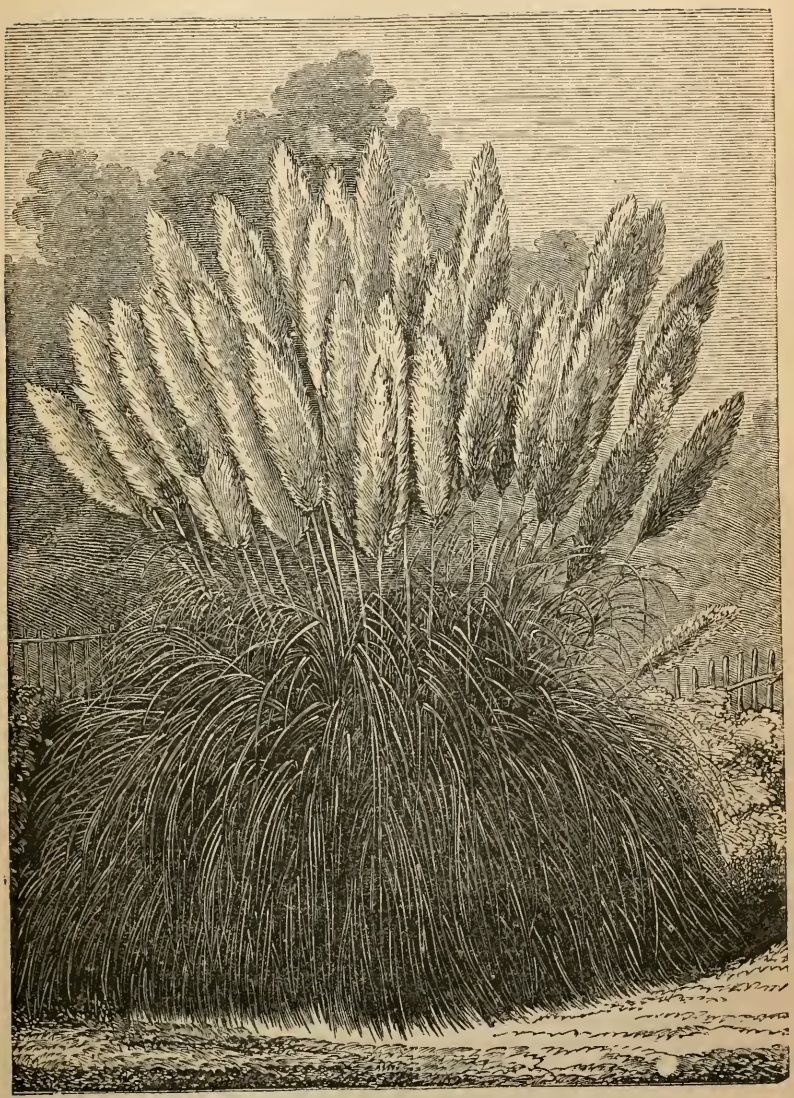
Lecture on the Rose.—Mr. Shirley Hibberd delivered a lecture on the "History and Cultivation of the Rose," at the school-room, Grove Road, Hornsey Rise, on the 12th. J. R. Scott, Esq., of the Council of the Horticultural Society, presided, supported by W. Halse, Esq., — Brown, Esq., the Rev. the Rector, and others of the resident gentry. There were many ladies present and a good muster of working gardeners. In the course of the lecture it was stated that the disputes on the merits of Manetti stock had resulted in establishing its character as one admirably adapted for ungenial soils, where roses on their own roots do badly. Worked plants were described

as generally inferior to those on their own bottoms, but the chief value of stocks was, in adapting roses to positions in which they would not prosper without them. Mr. Hibberd condemned the prevailing fashion of growing standard roses in pincushion-beds and on grass lawns, as a violation of good taste. The possessor had to endure the spectacle of things resembling mops all the year round, and for six months of that time they were without a leaf to soften their ugly outlines. The rosery should be away from the house, and should by no means form a conspicuous feature as seen from the drawing-room windows, because of the wretched appearance of roses in the winter, when a clump of common evergreens or a good peat-bed filled with American species was a source of unending gratification. The propagation of roses was considered under the several heads of budding, grafting, layering, and the striking of cuttings and eyes; and each of the several processes was illustrated by diagrams made with chalk on a black board. In describing the several classes of roses, Mr. Hibberd said that all the yellows required age and sun-heat to bring out their excellencies. He could never flower Fortune's Yellow (which was now being kicked out of the nurseries) until he planted it on a platform in a hot position, and allowed it to grow free, with no pruning beyond cutting weak growths back to the base. Isabella Grey had not fulfilled the expectations raised concerning her; young plants flowered in pots he found to produce white blossoms, but, when worked and allowed to grow freely a few seasons, it acquired its true character. In the class of crimsons Mr. Hibberd said he believed Eugene Appert would prove as good a bedder as the General, which was at present the best for the purpose.

Coming Shows.—Mr. Holland desires to remind his friends of the chrysanthemum interest of the exhibition of this autumnal flower, which is announced to take place at Leicester next November. The Society has a celebrity not only for the excellence of its exhibitions, but for the spirit of union which exists amongst its members. Would we could say so of similar associations. The gathering at Leicester is expected to be the best that has yet taken place there. The Stoke Newington Chrysanthemum Shows are fixed for November 8th and 9th and November 12th and 13th. The following dates of shows already announced may be useful to intending exhibitors and visitors in the several districts:—Royal Botanic Spring Flowers, April 4th and 25th; miscellaneous exhibitions, May 30th, June 20th, July 4th; Stroud Horticultural Society, Thursday, June 7th, when a silver cup will be given for the best collection of nine ornamental plants in flower; York Floral Fête, June 13th and 14th; the prizes amount to £300; the proceeds are to be given in aid of the York charities. Sutton Coldfield Exhibition, seven silver cups, August 29th; National Hollyhock Show, six silver cups, some time in August, place and date not yet determined; Bristol and Clifton Horticultural, May 24th and August 30th; Brighton and Sussex Horticultural, June 27th and 28th and September 12th and 13th. Dr. Lindley's senior course of lectures on "Botany," at University College, will commence 1st of May. A new Floricultural Society has been formed at Woolwich.

THE PAMPAS GRASS.

There is scarcely a garden of any pretensions that is not by this time adorned with the magnificent Gynerium argenteum, or pampas grass. Unlike many other newly-introduced exotics, this has had no ordeal of adverse opinions to endure in establishing its claims to general admiration. The only point about which there was any uncertainty was as to its hardiness, and that point is settled to the satisfaction of the inhabitants of the most northerly districts of our island, for it endures the extremest severity of the British winter, and to some extent is indifferent



GYNERIUM ARGENTEUM, OR PAMPAS GRASS.

From a Photograph taken in Messrs. Sutton's Nursery, Reading.

as to the aspect in which it is grown. At the Crystal Palace, it forms a striking feature for the fronts of shrubberies; at Kew, it towers up on the margin of the lake, a true queen of the green sward; and in private gardens everywhere it has its place—in the rockery, the rootery, and beside the fish-pond.

Like some of our commonest English grasses, it will grow anywhere, no matter what the nature of the soil or climate, but there will be a vast difference in the respective luxuriance and beauty of plants grown under circumstances congenial to the habit of the species, and those grown under difficulties. In a dry, barren sand it will throw up its elegant tufts of green, but never attain to its proper stately dimensions, and in a hot aspect the colour of the foliage will be injured during the latter portions of the summer season. To grow it well it requires a deep, moist loam, heavily enriched with rotten manure and leaf-mould, and, during its season of vigorous growth—from the end of May to the end of September—it should be frequently supplied with weak liquid-manure. Its proper home is beside the rapid and frequently-swollen streams of the South American Pampas, where it forms dense jungles, through which it is impossible to pass, except by cutting a way through, owing to the serrated character of the margins of its wavy leaves.

The best season to turn out small plants from pots is from April to the end of May. A hole, three feet deep and four feet wide, should be made. Into this should be thrown a mixture of rotten dung, leaf-mould, and fat loam, in about equal proportions, till the hole is filled up to within eighteen inches of the surface. It should then be filled up with loam and leaf-mould only, and the plant should be turned out in the centre, and firmly made up with the soil. A few good waterings will cause the roots to strike out into the compost, and after that the plant will prosper with no other attention than occasional supplies of moisture. The soil in which it is planted will probably sink in the course of a few weeks, when it should be liberally mulched with short dung only, half-rotten, the foliage of the plant being gathered up and tied to a stake when the dung is laid down, in order that none of the leaves may be covered. The soil around the plant should on no account be elevated above the surrounding surface; on the contrary, it should be below that surface, as in the case of an American bed, in order to retain as much as possible the heavy summer rains. Established plants may be taken up and replanted with perfect safety any time from December to April. We have transplanted large specimens during winter for three seasons past, and never lost one, though very severe frosts followed the transplanting. If the plants were cut over close to the ground at the time of such transplanting, they would probably perish; therefore let the old foliage remain. It will wither and form a protecting screen to the crown of the plant, and may be cut away carefully as soon as the new spring growth appears. As the seeds of this plant are now offered through the ordinary trade channels, we advise those who wish to plant in any quantity among their shrubberies and collections of ferns and grasses, to raise a stock from seed. It may be sown in any of the ordinary fine composts used for spring seeds, and is best started with a gentle bottom-heat, the plants to be kept under glass in a cool house till large enough to be potted singly in thumb-pots, and then into sixties, after which they should be removed to a cold frame, have plenty of air, and be shaded from mid-day sun. Contrary to general expectation, the pampas grass has a very noble appearance in the centre of a lawn, or, indeed, anywhere standing clear of other objects on a surface of turf. Flower-gardens laid out on turf would in most cases derive additional interest by the use of the pampas grass for centre and corner pieces, and in divisional lines where a tuft-like mass would have the effect of connecting several sets of colours into one whole. We could give measurements of many fine specimens that have come under our own observation during the last three years. We saw one plant last autumn which had a circumference of twenty-six feet, and twenty spikes of bloom twenty feet high. The bloom-spikes rarely exceed twelve feet, but in rich soils, on the margins of lakes and in the partial shade of trees, they rise higher, and the bloom is much more luxuriant. We have seen as many as fifty spikes of bloom on a plant so circumstanced. Where it is intended to plant in very conspicuous positions, it is well to endeavour to get female plants, as they have a much more noble appearance than the males when in bloom. The noble specimen figured in illustration of this article is in the nursery of Messrs. Sutton, of Reading, and the representation is from a photograph taken last autumn, when the plant was in the highest perfection and loaded with nearly forty of its silvery plumes. Messrs. Sutton have a large stock of seed.

VINE BORDERS AND VINE PLANTING.

In the February number of the Floral World I observed that special circumstances would in many cases require modification in the plans adopted. Now, as bearing upon this assertion, I wish to observe that a vinery may be a lean-to or a span-roofed structure, and, as some situations may demand the latter form for sake of appearance, there is no valid objection to it, providing it stands with one end to the north and the other to the south, so as to give the vines alternately the benefit of sun, the one side receiving its rays in the morning, and the other in the afternoon; but it is, I think, doubtful whether the result would be satisfactory if the points were reversed, as the vines on the north side would be too much shaded by those on the south. Span-roof houses are very justly taking the lead as plant-houses, but I am still of opinion that, for vines, the lean-to is preferable, and decidedly so for early work, or for such kinds as require much heat to ripen them, because a lean-to turns its weather-proof back of brick to the stormy north or north-west, whilst it receives all the rays of the sun, so precious to the early forcer, in winter and spring, and retains them better than a span-roof house with glass on both sides, through which rough winds will penetrate in spite of the most perfect heating apparatus. Span-roof vineries may, therefore, be set down as only suitable for an autumn crop, or where appearance is of paramount importance.

On the high estimation in which the grape is held I need not enlarge, as every one who has entered a vinery hung from end to end with luscious fruit knows with what admiration they have regarded them, and with what gusto they have beheld the overflowing dishes of jet Hamburgs and Amber Muscats brought to table. They are not only grateful and harmless to the healthy, but, above all other fruits, are especially so to the sick, and have been held in the highest estimation from time immemorial. It is no wonder, then, that almost every one who can afford to build a house desires to build a vinery, or at least a house in which grapes may form part of the produce; and it is gratifying to see how many, now that glass is so cheap, are enabled to gratify their desires in that particular; but glass is not the only item in the matter. It is therefore our wish to render them the best aid in our power by offering them plans combining simplicity of construction with durability and efficiency, so that their purse may not be unnecessarily drained for useless or complicated appendages that add nothing to the usefulness of the structure. Preparing the border in which the vines are to grow is perhaps the matter of greatest importance, and has been the rock on which the hopes of numbers of grape-growers (professional as well as amateur) have been wrecked, and that on account of the foolish quackery that has been mixed up with the subject through the idea that the vine was a regular gormand, capable of devouring all kinds of filth. This led to the absurd plan of digging immense pits, to be filled with the richest of composts that could be devised, and very frequently with carrion, without a thought for the drainage, or how the water that came into this mass was to escape. And, as if to insure the formation of a poisonous paste in which the roots would be sure to perish, such borders were made up without a bit of imperishable material to keep the texture open and permeable to the roots of the vines and the admission of atmospheric air. Such borders I have seen dug up after a few years, a sour, saponaceous mass, with scarcely a living root in them, the few roots that kept the vines alive being in close contact with the foundation-wall of the vinery, where a better drainage we may suppose was secured to them by the absorption of water by the brickwork. Any of our readers, therefore, who are troubled with mildew or shanking amongst their grapes are advised to consider whether the above description applies to their vine borders, and I think very likely such will be the case, for undoubtedly wet and sour borders are the most prevalent cause of these diseases. In the construction of any new borders the following directions are to be followed, and, first of all, let us say a few words on the preparation of the compost, as in some localities a light porous soil abounds, and in others nothing but a stiff, tenacious soil. I would rather endeavour to set the cultivator thinking for himself than by any quack rules to propound a recipe which might answer the desired purpose on one description of soil, but fail to do so on another. Let him, therefore, look about him, and see what he has at hand, and whether the soil about him is *stiff* or *light*, or possessing a medium texture, which is best, but not indispensable, as either of

the former may be rectified by admixtures, tending in the *first case* to keep it open and porous, such as charcoal, rough bones, and what is very good for the purpose where it can be found is the residue from the rot-heap, where all the vegetable refuse and sweepings from the garden have been thrown and become rotten. If it contains a few stones and potsherds it will be none the worse for it. Another good material may be found by the side of the public roads when the grass borders are pared, as that contains a quantity of grit. All these things are to be mixed with a degree of moderation, but the principal ingredient must be turfy-soil, from a meadow or the border of a field, say in the proportion of two-thirds of the whole, whilst the remaining third may be made up of the above-named materials and good rotten farm-yard manure. Again, if the soil of the place is very light and porous, take rather less than the two-thirds from the meadow or field, and, instead thereof, proceed to a brick-field, a common, or old clay-pit. In such places a coarse herbage of rushes, etc., covers the surface, and may be dug in sods, and, by the use of a little brushwood or prunings, may be roasted or charred, and will make an excellent addition to the border, and tend to rectify the extreme porosity of the soil. The other ingredients above-named may then be added as in the former case. Charcoal is one of the best materials that can be put in to preserve the border in a sweet and porous state; lime-rubbish or cinder-ashes must on no account be admitted. They tend rather to bind and concrete the soil, whilst they add nothing in the form of nutriment to it. Rough bones are a good ingredient, as they tend to keep the soil open and to feed the vines for many years, and the best kind are the skulls from the tan-yards, which may be slightly broken by an axe or hammer; but, where these are not obtainable, use ground bones as they come from the bone-mill. Bear in mind that, although the vine likes good living, and must have it, in order to give heavy crops of well-ripened grapes, yet it must not be surfeited by any such filth as carrion or garbage in the soil in which it grows. The carrion theory has had its day, and worked mischief enough; avoid its use by all means, and, in order to add strength and vigour to the vines, rather depend on top-dressings of good stable-dung and waterings of liquid-manure, than an over-dose of it in the first instance. Now is a good time to collect the various ingredients into a heap together, so that by turning it two or three times it may be well mixed; but let the turning over be done in dry and, if possible, windy weather, so that it may be in as dry a state as possible when the border is formed. Respecting the making of the border, on referring to page 26, it will be seen in the plan that the border enters within the front wall of the house, which is to allow of planting the vines inside, in order to secure their stems and the collar of the root from injury; as well as that a little stimulus may be given them in spring, when forcing commences, from their close proximity to the hot-water pipes and the ready means it affords for watering with warm liquid-manure at the same period, when it is of so much importance that the roots should be in advance of the branches. It will also be seen that the border is sunk but little below the ground line at its commencement next the house, with a fall sufficient to secure a good drainage; but this may be a matter of degree, to be regulated according to the locality and other local circumstances, for if the surrounding soil and subsoil is of a warm and porous nature, calculated to draw off water freely, the border need not to be kept so high, but, on the contrary, may, with some degree of advantage, be kept lower, as it would then be less exposed to drought in summer. If, however, the situation is damp, and soil cold and wet, keep the border well up, as there shown, and in either case the border itself need not be more than three feet deep, exclusive of the drainage. When the natural soil has been removed to the desired depth, let a floor of concrete, consisting of lime, gravel, and cinder-ashes, or some such mixture, be rammed in, and a drain laid along the front, so as to keep the border quite free from any excess of water that may get into it. Upon the concrete floor put six or eight inches in depth of brickbats as a drainage, and upon these lay green sods or some other material, such as a slight covering of long stable-litter, to keep the soil from mixing with the drainage. The soil for the border may then be put in, choosing dry weather, and it is worth while also to choose bright, sunny weather for the operation, as the soil will thereby gather a degree of warmth highly beneficial to the vines; also avoid as much as possible treading the soil, as its texture may thereby be spoiled. It may in some cases be desirable to form the border at two or more periods, say six or eight feet wide the first year, adding a like width the year after; but I think the concrete floor should if possible be all put in at one time,

or it might be difficult to form a good joint and to render the drainage perfect. The use of the hard floor is to keep the vine roots from penetrating into wet subsoils and below the influence of sun and air, for the nearer the surface the roots can be kept the better the wood becomes ripened, the juices are more perfectly elaborated, and, as a consequence, the fruit is finer coloured and richer in flavour. With shallow borders more attention to watering becomes necessary, and if so attended to during the early part of summer, whilst the vine is making heavy demands on the root, the only drawback that I know of to shallow borders, viz., the cracking of the berries from lack of sufficient moisture, may easily be prevented; whilst to withhold moisture from such borders at the end of summer, and to cover the border with wood shutters to keep out the autumnal rains, is to defy shanking of the fruit, unripe, and consequently unfruitful wood, and to put the best check upon the mildew.

For planting, I consider the end of May or beginning of June a good time, provided the means are at hand for starting the vines at their natural season, and of keeping them growing until that period arrives. When so treated they should, early in spring, have their roots carefully singled out, and then be planted in temporary boxes, about three feet long and six or eight inches deep, in good old vegetable soil or rich garden-mould, and be placed in any comfortable house or pit, where the young growth gets light and air sufficient to keep it sturdy and strong until the time for planting arrives, when the box may be placed in the spot the vine is to occupy, and be carefully wrenched in pieces and drawn away without much disturbance to the roots. They may then be covered with fine soil and watered with tepid water, and a thin shade be placed over the vine until it is established. This is a very useful plan when the houses cannot be finished, or the border got into proper order until the season is somewhat advanced; but, where everything is in readiness, plant them at once in the place they are to occupy, by carefully disentangling their roots and spreading them out. Cover them with some nice light soil, and water with soft water. I need hardly say plant only vines raised from eyes, as no respectable nurseryman now keeps any other. In selecting them regard not the length of the cane so much as its circumference, and the hardness and plumpness of the wood and buds, for however long the cane, it must be shortened back if growth has not commenced to a few inches from the surface of the pot; but if the buds are visibly swelling when the plants are received, then rub off the uppermost buds, and encourage one to grow from near the bottom, and cut away the denuded stem after the selected bud has made a foot of growth, for if cut sooner it would bleed and weaken the plant.

Whitwell. H. Howlett.

CULTURE OF THE POMPONE CHRYSANTHEMUM.

If the plants have been treated according to the instructions given in the January number, they will, by this time, have established themselves in 48-size pots, and have sufficiently broken to enable the grower to make a selection of the shoots. Pot on into 32-size pots; at the same time peg, or tie down, the breaks in a uniform manner, so as to start the plant fairly. Great care is requisite at this early stage to bring the shoots into a horizontal, or an oblique position. Whatever style of training be adopted, the sooner a shoot is brought into its desired position, the less liable it is to split at the shoulder. Use copper wire, with a small hook at one end to embrace the shoot, and cut into lengths as required, and of sufficient substance to stand firm in the pots. The shoots may thus be brought down by degrees. Having thus potted and pegged down, the plants should be returned to their former place, and kept rather close for a few days to assist them in making fresh fibres in the new compost. Syringing overhead morning and evening, if the weather permits, will promote rapid growth. To plants of weak growth, a few applications of liquid manure will be beneficial. To one gallon of manure—composed of cow-dung, three-quarters; rabbits' or fowls' dung, one-quarter—add nine gallons of water. After some days, give air freely at every opportunity, but avoid easterly and cold winds, by tilting the lights from the windy quarter, and on fine days remove the lights altogether. The plants will thus be gradually hardened off for removal into summer quarters—to take place from the middle to the end of May, according to

season and circumstances. The *aspect* for summer growth has been determined by some writers to be south, fully exposed to the sun. Experience has taught others, who have given attention to maintain a healthy *foliage*, that the plants are much injured by an excess of hot sun; therefore, it is better to place them where they will have the full benefit of the morning sun until mid-day, and no longer; after which time the plants can be watered overhead without danger, and they will escape the risk of being scorched or fagged. The pots may advantageously be plunged in the ground during the heat of summer, and remain there until we give notice of their removal into a more open aspect. The stopping depends much upon the style which the grower intends to adopt. If, however, the style that I introduced in 1857, and which was approved by all who saw it, as the most adapted for an exhibition table, be followed, the stop should be at every fifth or eighth joint, if the plants be long jointed, as most of the strong growers are, such as Duruflet, Mustapha, and the like, which ought to be grown and shown as intermediate chrysanthemums—these may properly be stopped at every fifth joint; and such as Canrobert, Requiqui, and others in that style of growth, the stop may be at the eighth joint, and be continued until the first, second, or third week of August, according to the time of blooming. Bob should be stopped the last week of July, if the *growth* will allow, but not later than the first week of August. Canrobert, Requiqui, St. Thais, Helene, and others of their growth, should be stopped in the second week of August; and such as Cedo Nulli, Bijou de l'Horticultre, Brilliant, Doctor Bois Duval, would be stopped in the third week of August.

It is impossible to fix the exact time for potting without seeing the state of growth. I may however say that, whenever the fibres have fairly reached all round the sides of the pots, do not allow them to become in any way matted, but continue to pot on at once until attaining to the blooming-pot, which should not be later than June. Liquid manure, after June, should be of a cooling nature, viz.:—One peck of fresh cow-dung to twelve gallons of water; letting it stand for a few days before using. Great nicety is, however, not required. I have applied it pretty strong, and never found it to do an injury; but if a more *exciting* manure is used, the grower should carefully test its strength, or disappointment will sure to be the result, particularly if used during the hot season of the year. The application of liquid manure is not required until the roots have reached the sides of the pot, whether the plants be large or small. Training, whatever mode may be adopted, should be after each stop, and the most handy peg for summer work, if trained after these rules, will be of iron-wire. Previous to using it, dip the hook part into paint to prevent its cankering the tender shoots. Iron pegs are not only easily procured, but are very durable; I am now using those made in 1856, which will last this season, if not for another. Cuttings may now be started for growing as bushy plants, suitable for the conservatory—the same directions for stopping and for culture throughout holds good, except that the plants will need no pegging, or twisting, merely tie out the shoots to admit circulation of light and air. Cuttings may also be started as late as June, for growing in 48, or 32-size pots, and receive once or twice stopping, according to character of early or late blooming, as before mentioned. Compost for the last potting should consist of good holding loam, with a sixth part of dried cow-dung, pounded charcoal, and oyster-shells. If a lighter compost is used, the plants are liable to suffer in hot weather, not being able to retain sufficient moisture. Should green-fly or blight attack them, syringe with tobacco-water, in proportions of half an ounce of tobacco to three gallons of water. For red spider or mildew, dust with black sulphur, after syringing the plants in the evening; wash it off as much as possible, before the sun gets too hot the next morning, otherwise it is liable to cripple the foliage.

J. Holland,
Gardener to R. W. Peake, Esq.,
Spring Grove, Isleworth.

CULTURE OF MELONS ON DUNG-BEDS.

The melon was introduced to the Romans from Armenia, where it is a native, by Lucullus. It was first grown in this country in 1520. Henry VIII. sent his gardener, who was a French priest, named Woolf, to travel on the continent for the express purpose of acquiring a better knowledge of his art. He is said to have

introduced the musk melons into England about 1524. In the time of James I., John Parkinson tells us the melon was eaten with pepper, salt, and wine about 1625. Melons appear to have been especial favourites of James I. "I have sent," says Sir Henry Wotton, writing from Venice, in 1622, "the choicest melon-seeds of all kinds, which his Majesty doth expect." About 1727, melons were cut at the end of April, which before were rare in the middle of June.

It is my intention to make a few observations upon the old method of growing melons upon dung-beds with common frames, as I think it very little inferior to any other method, unless it be by hot-water pits. When melons are not wanted to be very early I should recommend the seed to be sown at the beginning of January, and set in the stove, where there is one; if not a stove, a hot-bed must be prepared for a one-light box to raise the plants upon and prepare them for the fruiting-bed. I consider the following a reasonable size for a three-light frame, viz., eleven feet long by six feet wide, two feet deep at the back, and one foot four inches deep in front. When the plants are showing their rough leaves they may be stopped, to make them break into side-shoots. The bed to fruit them in must be prepared with well-fermented horse-dung and leaves, if leaves can be procured, as they keep the bed from heating too violently, and continue the heat much longer. The bed ought to be a foot larger than the frame each way, and about three feet and a-half high at the back, and three feet in front, with a good layer of leaves upon the top, as they are much sweeter than dung. Put the frame upon it, and a heat-stick inside; when the heat is considered sufficiently mild to receive the plants, make a good-sized hill under the centre of each light, and let it remain until next day, so that the soil may get warmed before the plants are put in. As they grow, train them to the front and back of the frame. When they get near the sides of the frame stop them by pinching the end of each bine, which makes them throw out side-shoots, which will generally produce fruit. Should they not show fruit, stop them all at the first joint, and they are sure to show fruit next time they push, which ought to be impregnated as they come into flower. If this is attended to, a good crop may be expected to set. The best soil to grow the melon in is strong loam from a pasture with the turf upon it, laid up in a heap and chopped down when wanted, but not broken small when put into the frame. When the roots of the plants are pushing through the hills, make them into a ridge, and, as the heat begins to decline, add linings to the bed, and when it is necessary to fill the frame with soil, press it firmly down. The soil ought to be eighteen inches deep at least, and to allow of this the frame may be raised by putting soil upon the linings, which will encourage the roots to go outside the frame. Water them in the morning in the early part of the season; but, when the weather becomes hot, then water about half-an-hour before the sun goes off the frame, in the evening, and shut them up close; it will cause a brisk, moist heat all night. The heat at all times ought not to be less than 70°.

J. Howlett.

Abbey Gardens, Ramsey.

CULTURE AND MANAGEMENT OF THE BALSAM.

This old favourite plant should not be sown too early, as it can be bloomed in a very short time. I think it best to sow three or four times during the season—first in April, then in May for the general show, June twice for succession. Sow the seed thinly and evenly over the surface of the pot, pan, or box used for the purpose; sprinkle or sift soil over enough to well cover it; as soon as the plants are up, give air freely, without lowering the temperature below 60°; when the plants are strong enough, prick them out round the sides of pots, about two inches apart, it mattering but little what sized pot it is; let the seed leaves be not more than one inch above the surface, using rather light soil in their young growth; when the plants are strong enough, pot them singly in 60-sized pots, lowering them into the soil, so that the first or seed-leaves be not more than one inch from the surface of the soil; as they grow up, sink the pots in the tan-bed or leaf-bed, which I find do quite as well as tan, as they do not require a powerful heat; when the plants have grown strong, repot them in 4-inch pots; raise the frame, so that the plants do not quite touch the glass; as soon as the roots begin to form round the sides of the last pots, they must be removed to pots of six inches diameter, and be still

lowered if necessary, for as balsams throw out new roots all up the stem, if it be sunk the plant is improved rather than injured, but the seed-leaf should be kept an inch above the surface, even after its last shift. If we want large plants, the *buds* are all picked off as fast as they come until the size we require is attained. As soon as one pot fills with roots, the plant should be shifted into a larger. The soil at this stage of their growth should be a rich compost of loam and vegetable mould; if the loam is from rotten turves it requires nothing else. As the whole stock can hardly be wanted to bloom in pots, some of the least promising that appear among them, when they are about half grown, may be turned into the borders or flower-beds, where they make a very pretty show, and seed freely. Those in pots have to be put into the greenhouse when they have grown too large for the frames; they should be turned every day, that one side may not be drawn more than another. By constant shifting, as the plants fill the pots, and keeping them near the glass, they can be grown very large, and flowers will cover the stems all round, if the *buds* are picked off from the middle stem until there are buds on the side shoots, and thinned out, so as to leave buds nearly of a size two inches apart all over the plant. By taking off the buds, plants may be grown to a great size. They are the better for occasional syringing, but they ought not to be wetted when in bloom. The house or pit may be watered so as to throw a dew over them when the flowers are opened, as syringing would injure the flowers. If shaded from the hot sun, they will last in flower a long time. When they get dry or indicate flagging, then the soil must be wetted thoroughly.

To show that balsams may be grown in the open air, I will make a few practical remarks. Five years back, after turning out about eight thousand bedding plants, I found I had one large flower-bed left, and nothing left to plant upon it. A thought struck me that balsams would look well. It was then the third week in May. I directly sent to a seedsman for a packet of mixed balsam seed. I sowed the seed evenly over the surface of the bed, raked in lightly, and watered. In a few days they were up—a great deal too thick. As soon, however, as the plants were large enough, I thinned them out full two feet every way. They grew strong and vigorous, and in a few weeks the bed was covered and full of beautiful colours, which were the admiration of all who saw them. The bed so furnished is full south, the soil is eighteen inches deep, about half loam and half garden soil, dressed with decomposed dung. How easily every gardener could make a grand show of this beautiful plant.

J. Howlett.

Abbey Gardens, Ramsey.

TOM THUMB TROPÆOLUM.

The different opinions last year as to the merits of the Tropæolum Tom Thumb, and the observations by "B. T. E." with your remark thereon, induce me to offer my experience of the flower in question.

Last spring I got a shilling packet of the seed from Messrs. Carter, and, as I had already an abundance of *scarlet* in my garden, and merely wanted to try what the new flower was like, I shared the seeds with a friend who lives close by, and whose garden has the same aspect and soil as mine. One day we met, and she said, "I am greatly disappointed with the Tom Thumb Tropæolum; it is not even so handsome as the old common nasturtium; it certainly is better adapted for bedding, being smaller and more compact, but I would never think it *worth* bedding, it is so poor." "How can you say so," I exclaimed, "the blossom is like velvet in richness, and, as to colour, I compared it with Tom Thumb Geranium, and I really think the tropæolum the most brilliant *scarlet!*"

I took a blossom of mine (I had only one plant in bloom at that time) to compare with my friend's, and to my surprise found hers were scarcely more scarlet than the old orange-red nasturtium. The leaves were larger than those on my plant, and the blossoms more widely opened. In a day or two, my remaining plants were in bloom, but to my disappointment they were also *orange-red*. If all the flowers were like my little scarlet beauty, they would form a brilliant bed; but I suppose it was a freak of Nature which might never occur again. I hoped to have saved seed from the plant, but there was not a single seed on it, or on any of the others.

F. A. Stewart.

Ardmore, Youghal, County Cork.

A STANDISH-HOUSE AND SCREENS.

I BEG to submit the following to the attention of your numerous readers, and advise every one of them to set to work and build a Standish-house. There is no patent to infringe, though the idea is well worth one; and as for the price, that is "ridiculously low."

A common greenhouse is built in the lightest possible manner, but sufficiently strong that the *frame* will stand, the wood not having to carry any weight but tiffany, a fine, thin kind of calico-looking stuff, made by Mr. Shaw, of Manchester. The rafters, etc., can be very light indeed. The width of the tiffany is thirty-eight inches, and costs 5*s.* or 6*s.* per piece of twenty yards long. The rafters are placed nineteen inches apart; thus each breadth of tiffany is supported in the middle. It is tacked on to the wood, a piece of common woollen list being first placed on the tiffany, so that it does not tear, nor let the heads of the tacks cut it. The list, moreover, adds to the good appearance of the house, showing regular dark lines on the white ground. For ventilation, flaps, going the whole length of the house, are made so as to open by a pulley, as the accompanying sketch (Fig. 1) shows. I have not troubled you with a drawing of the whole house, as any shape will answer. The principle is this, that wherever glass has been used for gardening purposes, tiffany entirely supersedes it, being lighter, cheaper, better-looking, and superior for turning frost.

The same principle of construction is applicable for the protection of standard trees and for trees on walls. Fig. 2 is the best form of a screen for standard and bush fruit-trees; and Fig. 3 a convenient form for covering a wall. They are each covered with tiffany. The flaps show the system of ventilation. The screens are very much like Mr. Simpson's, in the March number of the FLORAL WORLD.

By-the-bye, Mr. Standish says *oiled* cotton soon rots; he cannot speak for varnished cotton. Now, I think, if Mr. Miller's plan was applied to tiffany, it would answer admirably. If Mr. Hibberd will make a Standish-house, he can laugh at the "London blacks," and, for a man of his taste, it is just the thing.

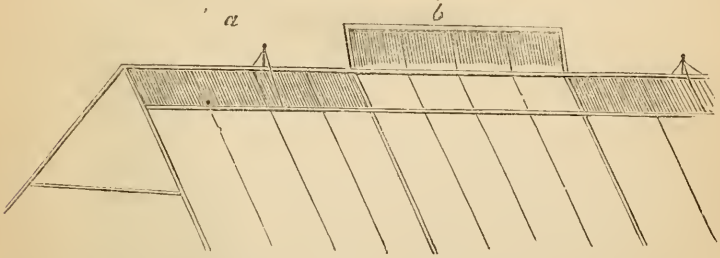


FIG. 1.—Top of Standish-house, showing, *a*, ventilating-flap shut; *b*, flap open.

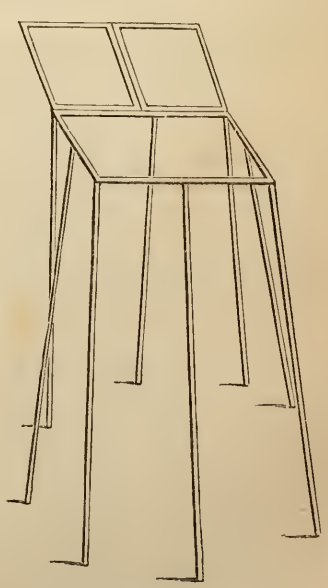


FIG. 2.—Screen for standard trees.

The late gales have had no effect on Mr. Standish's house at Bagshot. The tiffany rode out the storm in first-rate style; and, let me add, Mr. Standish *has proved* tiffany to resist 14° of frost! The vapour to plants, tiffany will not answer, as the vapour passes through the stuff.

Before I conclude my letter, I may mention that last summer I had the idea of pea and bean hurdles; but, as it was

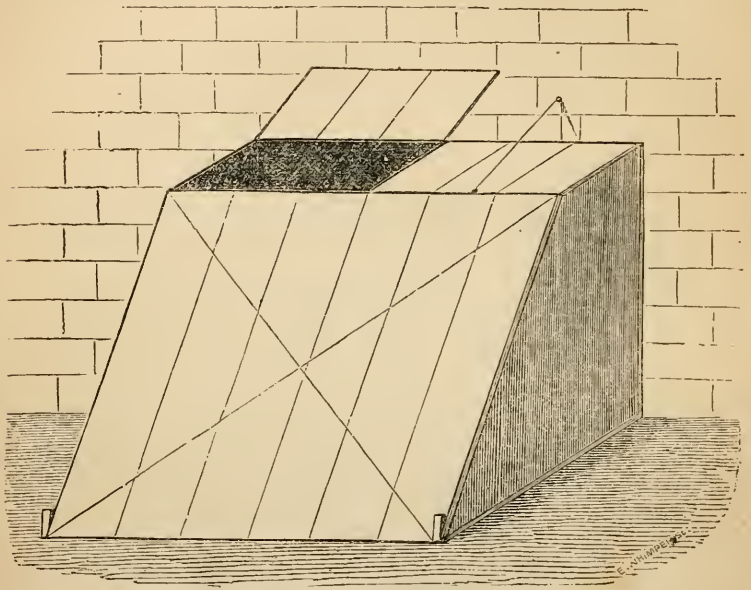


Fig. 3.—Standish wall-screen.

light under or in the house is perfect. In short, for all and every purpose to which glass is now applied in gardens, tiffany, while it lasts (of course it is not so durable), is far, very far superior, and when torn the house can be re-covered at less cost than to paint the wood of a glass one. If the house is required for steaming or giving only for my private use, if agreeable, I can give Mr. Hawkings a wrinkle or two.

Any further information I can furnish to your readers on the subject of these cheap houses, I shall be happy to do so. Enclosed is my card for your private perusal.

S. W.

Bagshot.

CHRYSANTHEMUMS FOR 1860.

Mr. Salter, of Versailles Nursery, Hammersmith, has sent us his welcome catalogue of new and old Chrysanthemums, and we find in it all the new varieties that were exhibited at last year's shows, and variously rewarded with medals and certificates. The introductory notice to the catalogue conveys some useful advice for growers of this favourite flower, especially as to selection for pot and border culture, and for display in the conservatory, or on the exhibition-table. We shall give next month a portrait of Mr. Hutt's Cedo Nulli, which was so much admired at the East London show last year, and, with that before them as a model, beginners will have less difficulty in blooming their plants according to the prevailing fashion. It is a fashion against which much may be said in point of art, but it is a fashion admirably adapted for conservatory and exhibition purposes, where a plant in the common bush form would be at least half hidden from the eye. Growers for exhibition have by this time got their plants into a forward state of growth, but, for home decoration and for planting out in the borders, this is a better time to begin than November, and,

therefore, the annexed list of sorts, selected from Mr. Salter's catalogue, appears at the right moment for intending purchasers.

Of the varieties named below we especially recommend "Arthur Wortley," which was admirably figured in the March number of the "Florist." It is beautifully incurved, and the gold tips are well set off by the warm salmon-rose of the lower parts of the petals. Mrs. W. Holborn is also a great acquisition to a class which has hitherto been rather deficient. It is a pure ivory-white, full, and incurved, and is a decided advance on the best whites of the class. "Alarm," a large, crimson, reflexed flower, will be found useful for general decorative purposes, but we doubt if it will ever become a favourite at exhibitions. The same may be said of Crista Galli, fiery red and orange, in the way of "Duc de Conegliano." "Queen of the Isles" is another pure white flower, of highest merit. It is an improved "Vesta," and may be grown to a large size without being stimulated into coarseness. Among the new pompones "Augusta" is perhaps the best. It is blush white, beautifully formed, of free habit, so as to be well adapted for pot culture and exhibition. "Christiana," yellow with brown points, a close, compact flower, and "Mrs. Turner," pure white hybrid pompone, were both figured in the "Florist" of January last; they will both be favourites. We observe with pleasure that the plants of this season are let out at lower prices than formerly, ranging from 3*s*. 6*d*. to 7*s*. each, the average being 5*s*.

CHRYSANTHEMUMS OF 1860.

Large Flowers.

Ajax (Salter), dark blood-red, incurved.

Alarm (Clark), dark violet-crimson, incurved.

Alma (Clark), crimson, reflexed.

Amazon (Clark), rose-pink.

Arthur Wortley (Salter), rosy-amber with gold tips, very full, and beautifully incurved, model of form.

Atalanta, cream with rosy tint, full and incurved.

Beauregard (Clark), dark maroon, full and incurved.

Boule de Neige (Clark), incurved, white.

Bouquet des Fleurs (Clark), dark red-crimson, full and incurved.

Clipper (Clark), red-carmine and gold shade, incurved.

Comet (Clark), orange and red.

Crista Galli, fiery-red and orange, tasselled, showy garden variety.

Dragon (Clark), puce with light centre.

Emperor (Salter), blush anemone with sulphur centre, changing into dark cherry.

Evening Star (Clark), red-salmon, incurved.

Favourite (Clark), rose-pink, finely incurved.

General Harding (Clark), Indian-red with orange shade, finely incurved, beautiful show flower, an improved "two-coloured incurved."

Grand Sultan (Clark), amber, incurved.

Jardin des Plantes, golden-orange, incurved.

Jewess (Clark), orange and red, fine for specimens.

John Bunyan (Salter), bright rose, full and fine, incurved.

Madonna (Clark), pink, rather quilled, but pretty.

Mrs. William Holborn (Slater), ivory-white, finely incurved.

Mr. Murray (Salter), dark violet-rose, reflexed, but full and fine.

Negro Boy (Clark), dark crimson, incurved, thin.

Novelty (Clark), blush white, fine centre, incurved, requires good cultivation.

Pearl (Salter), pearl-white, incurved.

Phaeton, golden-orange, free, full, and very showy for garden or greenhouse.

Pictorium Roseum (Clark), red-salmon, incurved, and fine for specimens.

Pompeii (Clark), cinnamon and orange, incurved.

Queen of the Isles (Salter), pure white, beautifully incurved.

Saco Vera (Clark), lilac and rose, incurved.

Wonderful (Clark), bright cherry-crimson, full, when young is incurved, afterwards reflexed.

Yellow Perfection (Clark), golden-yellow, beautifully incurved, superior to "Plutus."

Pompones.

Augusta (Salter), blush white, dwarf, double and free, excellent for specimens.

Ceres (Salter), dark orange, double, free.

Christiana (Salter), canary-yellow with brown points, double, and beautiful form.

Edith, light rose-salmon, dwarf, free.

Emily, light rosy-bronze, dwarf, free.

Eva (Salter), light golden-yellow, fine, for specimens.

Fanny, dark rosy-red, free and distinct.

Jane Amelia (Salter), dark rose-carmine, free, double, and very fine, in colour between "Salomon and Requiqui."

Mrs. Turner (Salter), hybrid pompone, pure white, fine form.

Musidora (Salter), chestnut-red and orange, small, but beautiful form.

THE CULTIVATION OF ANNUAL FLOWERS.

SECTION I.—HARDY ANNUALS.

INTRODUCTION.—The term "annual" is applied to those plants which flower and ripen their fruit the same season they are sown, and then perish. This definition is in no way affected by the fact that many annuals may be treated as biennial, or, in other words, be sown in autumn for flowering early the following season. By *hardy* annuals are usually understood those which require no artificial heat at any period of their growth; every stage of their development, from germination to the ripening of the seed, being passed in the open ground; whilst the term *half-hardy* is applied to those species which will flower—and often ripen their seed—in the open air, but need the assistance of artificial heat in the earlier stages of their growth.

SOILS MOST SUITABLE.—In soils of a porous, sandy texture, a much greater number of sorts of seed may be committed to the open ground than in those of a heavy, retentive character; and many annuals, among those commonly termed half-hardy, only require to be treated as such when sown at an early period of the spring. It will be evident, therefore, that no classification of annuals could be given which would be strictly applicable to every locality, nor even which should hold good for all places in the same county. Perhaps the soil best suited to a majority of the annuals—and, we might add, of plants in general—is a light, friable loam, containing a moderate amount of vegetable matter, and sufficient sand to render it porous; but as it rarely happens that the amateur has much choice of soil, it is fortunate that most of them will succeed in any but such as is of an extremely dry, sandy, or calcareous nature, or of a stiff, heavy, retentive character.

MANURES.—The use of strong, crude manures of an animal nature should be carefully avoided. In ordinarily good soil, an annual dressing of leaf-mould, decayed turves, or thoroughly-rotten manure, in quantities proportioned to the requirements of the soil, dug in to the depth of a few inches, will be all that is requisite.

TIME OF SOWING.—With regard to the proper season for sowing the hardy annuals, much necessarily depends on the character of the season. Of late years the springs have been so unfavourable, that many of the early-sown seedlings have perished under the combined influence of frost and wet, or the scarcely less destructive agency of bright sunshine, drought, and cutting east winds. As a general rule, the first sowings of this class may be made about the middle of March;—we doubt if any real advantage is gained by committing the seeds to the ground at an earlier period, for even should the weather chance to be sufficiently mild and open to permit of their being sown in February, no reliance can be placed on its continuance.

MODE OF SOWING.—As a general rule, the surface-soil should be rather dry than otherwise at the moment of sowing, and the operation should never be undertaken when the ground is very wet, especially at an early period of the spring. In the case of seeds of moderate size, the surface-soil may be scraped aside with the edge of a trowel to the depth of a quarter of an inch, and around the circumference of the slight hollow thus made, the seeds be thinly strewn, the soil being then returned and pressed flat with the back of the spade or trowel. If the soil be of an adhesive nature, the pressure should be slight, or the surface will cake. It will be better, in this case, to cover the seeds with a little sandy loam, or other friable soil, instead of that of the border where the sowing is made.

The depth at which the seeds are sown will vary with their size. Large seeds, such as those of the Lupin, may be half an inch deep; while such as are very small require to be sown on the actual surface, a slight pressure being then sufficient to imbed them to a proper depth. For the majority of seeds, a very thin covering suffices; if sown too deep, they are longer in germinating, and the smaller ones are liable to decay. It sometimes insures a more even distribution of very small seeds, such as those of campanulas, Wahlenbergias, etc., if they are intimately mixed before sowing with a little fine dry soil, the mixture being sown the same way as seeds. Woolly seeds, as anemone, which adhere to each other, should be rubbed with a little fine sand, or ashes, which will generally separate them.

With a view to facilitate the vegetation of the seeds, it is often desirable to cover the patches for a few days, either with an inverted flower-pot, or, if the patches are large, with a few furze bushes.

TRANSPLANTING.—As soon as the seedlings are an inch high, such of the patches as are too thick should be carefully thinned out, especially about the centre of the tuft.

The seedlings removed may, if thought desirable, be replanted, and will generally bloom a week or two after the others. As a general rule, tap-rooted annuals, such as the larkspurs, and most of those of the poppy tribe, will not bear transplanting. Occasionally, they will succeed if removed very young; but they are almost always less vigorous than such as are not disturbed, and rarely worth the trouble bestowed. Transplanting should, if possible, be performed in cloudy weather, or towards evening; and, unless the soil is wet, the seedlings should be slightly watered, to settle the soil about the fibres, shading them for two or three days subsequently, should the weather be sunny. Such plants as have been sown in a reserve bed may be transferred to the borders in clumps without difficulty, if the precaution be taken of previously moistening the soil, when it is of a loose, dry character. With a little skill, even masses in bloom, or plants of some size, may be removed uninjured. The blooming season of most annuals, in common with other plants, may generally be much prolonged by removing the withered flowers; for it is well known that if allowed to ripen their capsules, the tendency to a succession of bloom is checked, and the subsequent blossoms are smaller.

SECTION II.—HALF-HARDY ANNUALS.

The term "half-hardy," as we have already explained, is applied to those annuals which, though they will flower freely in the open ground, require artificial heat to assist germination, and protection from atmospheric changes during the earliest stages of growth. There are but few gardens, however humble, which do not offer some convenience for raising the more tender annuals, the only really indispensable requisites being a one or two-light box, and a supply of fermenting material; and for many seeds, even these conditions may be still further simplified. The ordinary hot-bed of stable manure offers the simplest means of obtaining a gentle bottom-heat sufficient for most seeds, though, where other more perfect sources are available, they will of course be employed. Its construction is a simple matter enough, and is well understood by most persons possessing a garden.

In rare cases, the seeds are sown on the layer of soil which covers the hot-beds; but the most usual, and by far the best, plan is, to sow them in pots or pans. The latter differ only in being much shallower than pots, and they require, therefore, less soil to fill them. The pots should be quite dry when used, and—to insure a thorough drainage, which, essential for all plants, is doubly so for seedlings—must be filled at least one-third of their depth with broken crocks, the largest fragments being placed at the bottom and the smaller at the top. The remaining space should then be filled with soil (which at the time of using may be somewhat moist, but never wet) to within a half to three-quarters of an inch of the rim, when the pot should be gently struck to settle the mass, and, if necessary, additional soil added. In the case of very small seeds, such as those of clintonia, lobelia, or calceolaria, the covering of soil should be very thin; and, as seeds so minute are liable to be carried down into the soil unless very carefully watered, it is even advisable to moisten the flattened surface of soil in the pot just *before* sowing the seeds, instead of afterwards.

Towards the middle or end of May, many of the seedlings will be ready for transferring to the borders or beds they are intended to decorate; but, previous to this exposure, it will be necessary to prepare them for the change, by admitting air to the frame both day and night; or, what is better, by placing them in a separate frame, in which they may be gradually "hardened off," at first by keeping the lights off during the day only, and then, after an interval of five or six days, at night also, proceeding carefully while the nights are cold.

SECTION III.—TENDER OR GREENHOUSE ANNUALS.

THE GREENHOUSE OR TENDER ANNUALS, as they are usually termed, including the globe amaranth, cockscomb, egg plant, browallias, portulacas, and a few others, succeed better with bottom-heat, though the seeds will vegetate in a close frame. In either case, the plants, after pricking out, should remain in the frame until the end of June.—*Sutton's Spring Catalogue and Amateur's Guide for* 1860.

EXHIBITION OF CAMELLIAS.—We must defer till next month our report on the exhibition of Camellias at the nursery of Messrs. Milne and Co., Wandsworth Road. The exhibition was in every sense satisfactory, and included a large number of new continental seedlings flowered for the first time this season in England.

PLANTS FOR BASKETS.

I HAVE not succeeded in flowering Sinecio mikaniæ, but like it as much as ever for the sake of its really beautiful foliage. It does better to hang down in festoons, but it will climb freely; for an odd bit that I planted out at the foot of an arch, and left to train itself, had gone right over it, a height of ten feet, before August, and there it mixed very effectively with the beautiful Cobea scandens. I had last season from Mr. Thompson, of Ipswich, who introduced this climbing Senecio, a pretty thing called Polygone suavis. It is a slender spare-leaved twiner, which not only trains itself, but throws out tendrils. The leaves are dark-green, ovate, and serrated; and the flowers come in the axils of the leaves. They are creamy-white, small, and inconspicuous; and therefore this must not be adopted as at all striking as an ornament. Trained down the sides of a hanging basket it is peculiarly graceful, and its flowers emit such a sweet and powerful odour that a single plant is sufficient to scent the atmosphere of a large conservatory. Tradescantia zebrina makes a beautiful object when grown on a block mossed over and trained down. It is also a good plant to mix with light-foliaged creepers in baskets; its leaves are dashed with crimson and purple lines on a dark-green ground, stems crimson, and flowers pink. Though a stove plant, it does well in a warm greenhouse or conservatory. Thunbergias are charming things for dark-coloured baskets, producing abundance of their neat yellow and orange blossoms all the summer, and if sown early come well from seed. For planting out to run over a trellis or bank, I know of few things more elegant than the Chinese Yam, Dioscorea battatas, with its shiny heart-shaped leaves and pretty sweet-scented blossoms. Whether people take to eating the yam or not, wherever a tasteful eye lights upon it, it will be at once noted as a peculiarly graceful and interesting plant. Ipomea hederacea is another of the good things to train round the sides of a large basket; its fine ivy-shaped leaves and profusion of blue flowers give it great distinctness of character, and if its roots are confined it flowers sufficiently without attaining to a rank and unmanageable growth. Loasa aurantiaca may be entered as a desirable half-hardy annual to hang down in six-feet ringlets, with plenty of orange-coloured blossoms. Gesnera scabra is another good one, which attains a length of eighteen inches. For the centres of large vases nothing can equal pyramidal fuchsias, and indeed a set of fuchsias of sizes suited to the vase, ranging from dwarfs at the edge to a tall pyramid in the centre, will often prove better planting than the most fanciful mixtures that can be devised. The variegated mint and Cerastium tomentosum train over baskets well, and make a capital edging to Flower of the Day, or Andre, or Purple King Verbena. I believe it will yet be found that variegated-leaved plants are, after all, better for vases and baskets than those which have gaudy flowers. What a splendid thing for a vase is Farfugium grande, laying its bold blotched leaves over the soft rim of a stone vase, or filling a basket of moss or hazel rods. Cineraria maritima, the silver-frosted plant, never looks so well as when grown to a good size in a pot, and dropped into a wicker or bark vase. Stachys lanata, again, has charming silvery leaves; so have Achillea tomentosa and Centaurea argentea, and the strikingly-marked Fragaria foli variegata, which, by the way, is not near so hardy as a common strawberry, and must not be exposed to frost. S. H.

REMINDERS FOR APRIL.

Auriculas are not very forward this spring, and in some places will be hardly up to the mark for the early shows. There is a prospect of increased popularity for this flower, and this is a good time to buy stock of leading kinds in bloom. A cool,

north situation is the best place for them now, where the climate is not severe.

Azaleas done flowering must be kept rather close, and in a moist atmosphere to favour a quick growth, as it is important to get the new wood well ripened when the growth is completed. Those that are cramped at the roots must be repotted in good peat and silky loam. Artificial peat is wholly unfit for such plants in pots.

Borders should be forked over now that herbaceous plants are all visible and there is no danger of destroying any.

Calceolarias coming into bloom must have plenty of water and free ventilation. Syringe the lower leaves and branches, but wet the blossoms as little as possible.

Camellias done blooming treat the same as advised for azaleas. Those coming into bloom must have occasional strengthening with liquid-manure. Lanky plants will be improved by removing the top buds before they expand, to throw vigour into the lower branches.

Chrysanthemums may be planted out towards the end of the month if previously hardened in a cold pit. The supply of cuttings for beds need not be taken till the middle of May, and will then strike without heat.

Cinerarias are very fine this season, and some good seedlings have made their appearance. It is a good time for beginners to purchase sorts in bloom to propagate for stock, as directed in a former number by Mr. Holland. Green-fly will annoy the plants, unless kept down with gentle smokings. Dung, three parts rotten, and mellow hazel-loam should be chopped over and laid up at once for potting the next lot, so as to be sweet and friable when wanted.

Conservatory should now be very gay with bulbs, camellias, and forced deciduous shrubs and trees. Look out at once for the summer supply. Cannas are now fashionable for their fine tropical-looking foliage, and some new varieties of Ricinus will be much used to help the foliage effects of Caladiums, etc. Datura Wrightii is a charming annual for a warm house, and delightfully scented.

Dahlias ought now to be strong in 60-pots, and kept growing slowly. Cuttings put in now will make good plants. For large specimens use old plants, to be started now at the bottom of a vinery or a cool part of a pine-pit.

Dandelion, grown in Pascall's seakale-pots in a gentle dung-heat, forms an elegant and acceptable salad. Strong plants may be forced the same as seakale and asparagus, and must be thoroughly blanched, to prevent bitterness. Any old plants in odd places about the garden may be blanched where they are by turning a pot over them and stopping the hole with a piece of tile.

Forcing must be continued with lettuce, mint, asparagus, and potatoes. Many of the complaints of failure which reach us are attributable to high night temperatures. All sources of heat that are under full control, such as hot water and flues, admit of being reduced or increased, as required, and the temperature should always fall from five to ten degrees at night in heated structures of *all* kinds.

Kitchen Garden.—The first surfacing of weeds should be the signal for a general stirring of the ground between the crops, so as to kill weeds, and hasten the growth of the crop at the same time. Sow a small lot of Newington Wonder beans on a warm border at once, and in ten days make another sowing. Sow Negro or Speckled Dun the third week, and Runners the last week of the month. Sow successions of all ordinary saladings, and thin seed-beds sown last month before the plants get drawn.

Pelargoniums to be encouraged to grow freely by the use of the syringe and regular tying out. Fumigate as soon as fly appears, or much mischief may ensue. Plants showing for bloom to have weak manure or soot-water at every other watering.

TO CORRESPONDENTS.

Pinks and Pansies.—*Young Sub.*—Your letter came on the 24th, when the number was made up. We can only now advise you to get a supply of turves from a loamy pasture, and some one year old cow-dung. Chop them over together, one-third dung to two-thirds turfy loam, and lay in a ridge for future use. Meanwhile, get a supply of *good seed*, and sow a pinch of each in pans filled with loam 2 parts, leaf-mould 1 part, very powdery dung 1 part, silver sand 1 part. Place the pans in a one-light box, with a square of window-glass laid loosely over each pan to prevent evaporation, and you will soon have seedling plants to begin with. Next month we will help you a step further. You should obtain the treatises on these two flowers in "Garden Favourites."

Set of Beds.—*E. P.*—You give no measurements and no aspect. If the sun falls full on the house across the beds at mid-day, the planting should be different to what it would be if the beds were in shadow, with sun morning and evening only. Therefore, the following must be taken as offered, on *general* principles only:—The centre pattern to be worked out in variegated mint, variegated alyssum, blue lobelia,

mixed, equal quantities of each all through; 1, 2, Tom Thumb geranium; 3, 4, 5, 6, Calceolaria amplexicaulis; 7, 8, Lobelia speciosa; 9, 10, 11, 12, Cerastium tomentosum; 13, 14, verbena Belinda, or verbena Andre.

CATALOGUES AND BOOKS RECEIVED.—"Descriptive Catalogue of Dahlias, Pœonies, Phloxes, Fuchsias, Chrysanthemums, Irises, Daisies, Antirrhinums, etc., cultivated by John Salter, Versailles Nursery, Hammersmith, W." In addition to chrysanthemums, of which Mr. Salter's is the largest collection in Europe, this compact catalogue contains lists of the best dahlias, pentstemons, fuchsias, potentillas, and geraniums, and hardy ornamental plants, with variegated foliage. The list of the latter increases year by year, and the one before us is the best of the kind we have yet seen.—"Sutton's Farmer's Manual and Seed List for 1860. Sutton and Sons, Reading." A valuable and interesting work for farmers generally, who desire to keep pace with the times, and especially valuable to the large respectable class of amateur farmers, allotment holders, and the market growers of cattle feed. There is a carefully written paper on the Distribution of British Grasses, by Professor Buckman, whose book we noticed a short time since, and numerous practical notes on the field culture of the carrot, turnip, mangold, cabbage, a copious seed list well arranged, and a calendar of farm operations.—"Catalogue of Cast Iron Vases, Chairs, Seats, etc., kept in stock by J. Jones, hotwater apparatus manufacturer, Bankside, Southwark." The designs of some of the iron chairs, and stools, and garden seats are admirable, but we are in no way attracted by Mr. Jones' vases. After the works of Messrs. Ransome, of Ipswich, all works of the same class are poor, or at least mediocre. Purchasers of garden furniture should pay a visit to Bankside, to select from these cheap and beautiful seats and tables, many of which are as fit for the hall and the drawing-room, as for the grass-plot or the garden-house. Mr. Jones has brought the hot-water system to a state of high efficiency, and his cannon boilers are powerful, certain, and immensely economical in working. — "The Autobiography of a White Cabbage Butterfly, by Michael Westcott, of Wells, Somerset, with introduction by Beverley R. Morris, Esq., M.D.D. Groombridge and Sons." We welcome this new edition of a very ingenious and amusing, and not the less accurate monograph on the history of the commonest of butterflies. It is suitable for school prizes and for presentation to good boys and girls at home.—"Supplement to the Gardening Book of Annuals, by William Thompson, of Ipswich. Simpkin and Marshall." A clever *resumé* of the annuals added to the lists since Mr. Thompson's book was published, containing descriptions of more than 100 species. It is beautifully printed, and arranged alphabetically.

LINUM GRANDIFLORUM.—*Vita.*—The complaint you make of the quality of the flowers, convinces us that the seed was not true. This Linum is equal to all the praises that have been lavished upon it, and is by no means difficult of culture. We believe there is no occasion whatever for steeping the seed; it is a trouble for nothing. If the main crop is sown in pans, a pinch at least should be sown in the open border, which will probably produce the best plants. Those raised under glass require plenty of air; a close heated place ruins them in their youth. English saved seed is worthless. French is good, and Algerian is best of all.

GEOMETRIC GARDEN.—*S. R. O.*—We can only offer a few general hints on your plan—because, first, we never undertake to plant gardens; secondly, we cannot judge what may be done, unless we know the nature of the climate, soil, aspect, and measurement of the beds, none of which particulars are supplied with the plan. No. 1 should be neutral, or a soft and unobtrusive colour. According to the fashion, that would be planted with a variegated geranium, such as Flower of the Day. Nos. 2 to 9 should be of plants pretty uniform in height and well balanced in colour; for instance, 5 and 9, 3 and 7, 8 and 4, 2 and 6, should be pairs, or in colours or tints very nearly corresponding. Suppose they were to be geraniums, we should use Flower of the Day in No. 1, Tom Thumb in 2 and 6, Trentham Scarlet in 4 and 8, Lucia Rosea in 3 and 7, and Boule de Neige in 5 and 9. To match with such arrangement, 10 and 12 should be White Unique, and 11 and 13 Salvia patens. The beds 9, 10, 11, 12, and 13, appear to be suitable for dwarf roses; say for 10, General Jacqueminot, 11, Duchess of Sutherland, 12, Geant des Batailles, 13, Caroline de Sansal. Perhaps dwarf evergreen shrubs, such as Skimmia Japonica, Gaultheria Shallon, Rhododendron ciliatum, and Gaultheria furens. But a mere diagram, without particulars, demands the gift of second sight to plant it; and the best general advice we can offer is, that every strong colour should be balanced, else the affair will look one-sided, and for the centre of any such geometric plan bright colours are unsuitable.

WINDOW GREENHOUSE.—*W. P. P.*—The dimensions you name and the plan of construction are suitable. You had better have a slate bottom instead of wood; but wood, well coated with pitch, will answer very well. To have a succession of flowers in such a small structure is impossible, unless you introduce plants in bloom, and remove them to supply their place with others as fast as they lose their beauty.

PROTECTION OF FRUIT BLOSSOMS.—*J. Holroyd.*—The best net is the Chiswick pattern, sold by Haythorn of Nottingham. They should be fixed to the wall a little above the trees, and brought out at the bottom in a sloping direction. For standard trees, take for each three or four stakes of sufficient length, drive them into the ground to meet above the tree, and tie them together firmly, quite clear of the branches all round, and over this contrivance throw the net at night, and take it off in the morning. Large trees must take their risk.

TIE FOR ZINC LABELS, ETC.—The best material for attaching zinc labels is soft metallic wire, which you can obtain of any respectable ironmonger. House sewage is the stuff that comes from bed-rooms, and the "suds" produced on washing-day, and greasy water, and the water vegetables have been cooked in from the kitchen. It is a mixture that does wonders as a fertilizer. Every drop of drainage from the stable and pig-sty should go on the land. Yours is a good camellia starved.

SUBSTITUTES FOR FLOWER OF THE DAY.—*A. B.*—To make a contrast against the bronzy foliage and vivid blossoms of Lobelia fulgens, you may use Cerastium tomentosum, variegated mint, variegated alyssum, variegated dead-nettle, variegated periwinkle, or Venus's navelwort. The only one about which there is a doubt is the variegated dead-nettle, which in a rich soil runs back to a healthy green. The periwinkle makes a first-rate substitute for Flower of the Day, and is most beautiful when in good keeping. All those named are quite hardy, and the Venus's navelwort is an annual that does not last long, but is exquisite in its glittering, silvery effect when at its best. A reserve plot of it, sown as soon as the flower-buds of the first begin to appear, will be ready to transplant to take the place of the first, when its day

is over, and for a few pence a genuine good feature may be secured.

Gishurst Compound—Cyclamen Persicum.—*E. N., Uckfield.*—We can only understand your failure to dislodge and destroy aphis by means of Gishurst compound by supposing you have not obtained the genuine article, or that what you have has been exposed to the atmosphere, or to some cause destructive of its virtues. Yours is the first complaint of non-efficiency we have yet received; but as tobacco and all other remedies fail in some hands, perhaps it would be well to try again. Read our remarks upon it in the number for September, 1859. Cyclamen Persicum should have plenty of water till the flowering is over, and then go to a cold pit and be allowed to get rather dry. After they have been there a fortnight, put them out on a bed of coal-ashes, and let them be pretty dry till the leaves begin to wither, when they must be laid on their sides, and have no more water till repotted. In repotting, plant them with the bulbs a little out of the soil, give very little water, and keep in a cold pit safe from frost till the leaves have fairly commenced growing, then increase the supply of water, but not to the extent of soddening them, and transfer to greenhouse to bloom again. The proper soil is well-chopped turfy loam, turfy peat, and leaf-mould, equal parts.

Waltonian Case.—*The Rev. Hugh Ford Bacon* wishes to add to his note on heating the case, that his is made with the sand-tray separate from the boiler, so that it can be lifted out by itself. Thus, between it and the boiler it is an easy matter to interpose whatever folds of coarse flannel may be deemed requisite to moderate and economize the heat. The floating light is used exactly as the old lamp, a hole being cut in the flannel where the flame has access to the boiler.—*Novice.*—You certainly are unfortunate in managing the case, but you must not be dispirited. We have just been conversing with a very successful exhibitor, who was seven years learning how to propagate one of the commonest of hardy shrubs; and we could name one or two skilful growers of specimen plants who always make a mess of propagating, and hence are obliged to put such work into other hands. So with the Waltonian—one writes to say he has succeeded, to his own surprise, from the first; another labours on for months, and can make nothing of it. We suspect you use too much heat. The introduction of candles will serve as a check to this baneful practice, for they will not give the heat of a lamp. Then you probably want a deeper bed of sand to hold the moisture longer, without need of making it too wet. We have two at work now, from which we could have thousands of seedling plants and rooted cuttings, and we hardly know what state the sand is in, we are so used to the process. About once a-week some hot water is poured into the boiler-tube to fill up, and it is allowed to run over freely, and the sand is of necessity wetted throughout. Any way the sand must be damp all over alike. The reason your geraniums die back after sprouting is because there is no root action, through being put into too sudden a heat. Use the Boite à Houppe, charged with flowers of sulphur, to keep down mildew. Keep the sand quite damp, and take the lights off the case altogether, keeping the heat as before.—*P. H. G.*—Glad to hear that "everything has proceeded without the slightest difficulty," though we should call it "a difficulty" to have seedlings come up drawn as yours are. You use too much heat; as soon as the soil in the pans begins to break, through the pushing of the seeds, the lights should be partially or wholly removed. This will cool the case, make the seedlings stubby, and harden them at the same time. Transplant when in the first rough leaves, in little batches round the sides of pots, and at the next shift put them separately into thumbs, and plant close up to the seed-leaf.—*N. S.*—The hairs always stand out brisk on the leaves when in a damp, warm air. Nothing but practice will enable you to manage the case, for in its management you have to learn the art of plant propagation. Very much depends on having brisk young cuttings. Some people put in joints of old wood, and then blame the case because they damp off. Newly-made shoots, taken off with a heel, are always the best to strike, whether in the case or a dung-bed.

Removing Plants in Flower.—*E. N. H., Wisbech.*—It is a bad practice to disturb the roots of any plant when in flower or near flowering. The poor appearance of the foliage proves that they want more water at the root, and a little of something stronger than water. Use weak soap-suds or soft water at the roots, and the leaves will look better immediately.

Belladonna Lily.—*M. M. S.*—Amaryllis Belladonna will thrive in any rich light sandy soil well drained. From this time, if in a pot, leave it alone till July, then repot it in mixture of peat, leaf-mould, loam, and old cow-dung, and give regular supplies of water till its leaves have been matured, and when it should be allowed to go rather dry, and be kept at rest till July again. The best place for it is on a dry border, near a wall, where it will flourish for years if preserved from injury, and in autumn produce its exquisitely-beautiful amaryllis-like blooms.

Oiled Calico and Varnished Cotton as Protectors from Frost.—"I would be obliged by P. Simpson, gardener, Kingcausie, mentioning what the upper part of the frame upon which he stretches the varnished calico is made of; and, if it is of wood, about what is the thickness of the pieces. I have attempted something of the kind, and failed in getting a serviceable frame. I would also be glad to know how it is fastened down to the sides. I have used oiled calico, which, as far as keeping out frost, is much the same, I imagine, as varnished calico, and find it superior to glass for that purpose. Mr. Glenny tells us that a sheet of oiled calico over a handglass will keep out the severest and longest frost. I find, however, that oiled calico is very soon made useless by something that I would be glad of knowing some means to avoid. In mild weather, especially, it soon greens over, becomes rotten and opaque, and so useless. In the case of a tolerably-sized turf-pit, which is covered with it, it is necessary to manage thus:—About the end of November, when the pit has to be pretty constantly covered, the calico is put on fresh. It remains transparent during the cold months of December, January, and February. In March it begins to green over, and by May is nearly opaque; but as during April and May one is nearly independent of covering during the daytime, it answers very well for so long. The oil put upon the calico is never boiled with sugar of lead, rosin, etc., as some recipes direct, as it has been found that common linseed oil dries perfectly in the open air in a week, in any weather—in the sun in two days. Some calico, oiled with oil prepared as above, appeared to green over just as soon as that done with unboiled oil. Perhaps you or your readers can tell me of some way to make the calico last longer.—*A. B.*"

Mignonette.—*Vergiss mein nicht.*—Sow the mignonette any time this month, on a bed liberally enriched with rotten dung; when the plants are up, thin them to 6 inches apart, and a fortnight after thin again, so as to allow from 9 to 12 inches between them throughout.

Give plenty of water morning and evening, in dry weather; and before it comes into bloom, nip out the centre of each plant, and very soon the side shoots will touch each other all over the bed; after which, continue to water as needed. You will thus have as good a bed as mignonette will make. For pots and boxes, sow where it is to bloom, in a mixture of rotted turves and cow-dung, one-third of the latter to two-thirds of the former. Give plenty of water, plenty of air, and plenty of sun, and Nature will do the rest for you. If transplanted, it rarely comes to any good except in very expert hands. There is a full account of Mr. Latter's mode of cultivating primulas in the FLORAL WORLD for April, 1858.

CAULIFLOWERS GROWN ON THE DUTCH METHOD.—*W. Shipley.*—The following is the description of the method by which the Dutch grow their fine cauliflowers, from the "Landwirthschaftliches Centralblatt, of which you have a dim notion, probably through having seen it cited from "Revue Horticole," in the "Chronicle":—In the autumn they dig deep some ground that has not been manured; at the beginning of May they sow the large English cauliflower upon a bed of manure, and cover it with straw mats at night. When the young plants are three or four inches high, they harrow the ground that had been prepared the autumn before, and with a wooden dibble, 18 inches long, they make holes about 10 inches deep, at proper distances apart, and enlarge them by working the dibble round till the hole at the top is about three inches in diameter. They immediately fill these holes with water, and repeat this three times the same day. In the evening they fill them with sheep's-dung, leaving only room enough for the young plant, which they very carefully remove from the bed of manure and place in the hole with a little earth. Directly afterwards they give them a good watering, and as soon as the sun begins to dry them, water them again. Furthermore, as the plants grow, they dig round them and earth them up in rows. When the head is forming, they pinch off some of the lower leaves of the plant, and use them to cover the young head.

SEEDLING PRIMULAS.—*A. F. G., Monkstown.*—By "seedling primulas" do you mean Chinese primulas? If so, the best way to deal with them when out of bloom is to throw them away. Double varieties are kept on by cuttings, and are very troublesome even to the most experienced growers. You can have a cover for the volume for 1*s. 6d.* through the same bookseller as supplies you with the work, and any bookbinder will bind the numbers in it.

SHADING ORCHARD-HOUSE.—*J. A. D., Edgarley.*—Tiffany is a capital shading material, because it admits full daylight; but common "strainer," such as used by paperhangers, is a material which we have used, fixed on outside with tacks, and found it very satisfactory. Your pears have been kept too dry and too warm. We keep all our choice fruit now in glazed earthen pans, with lids, on racks in a cool cellar, where there is enough damp to keep the fruit plump, but a good circulation given to prevent mildew.

PLANTING A NORTH-EAST ANGLE.—*N. S.*—For a background, you can take your choice of—Griselinia littoralis, which we find answers well in a north aspect and in a rich loam; Skimmia Japonica, which bears abundance of red berries; Gaultheria Shallon, and furens, procumbent shrubs, bearing berries; variegated periwinkle, to trail on the surface, and to give a colouring like Flower of the Day geranium. Calceolarias are good bedding stock for such an aspect, and any of the hardy annuals which, by the descriptions in the "Garden Oracle," appear to meet your ideas of what you would like; for as they are of but short duration, they will have quite enough sun from April to October. Cerastium tomentosum, or variegated mint, will make good silvery lines to set off blue or crimson in such a position. We have seen Tom Thumb geranium make a good bed with sun till noon only. As you appear to desire a distinct set of plants, we recommend the following, the bed measuring 15 feet by 6:—Centre marked out to correspond with the shape of the bed; Fuchsia Bopeep, in a slip 5 feet by 2 at broadest end; then, in a line round that, 10 feet long by 3 at widest end, Calceolaria aurea floribunda; then, 13 inches of Lobelia ramosoides, or speciosa, and an edging, 13 inches wide, of Cerastium tomentosum.

VARIOUS.—*A. B. S., Torquay.*—Your fern is Asplenium Hallerii.—*C. C. C., Yarmouth.*—The only grower who supplies Equisetum species (as far as we know) is Mr. Sim, of Foot's Cray, Kent, who has not only the largest and best collection of British and exotic ferns, but all the fern-allies that are worth cultivating.—*R. Dousan.*—The apiary at Muswell Hill is open to any one on presentation of an order from a member of the Apiarian Society. Mr. Hibberd is treasurer of that society, and Mr. Tegetmeier secretary.—*Mrs. F. F., Hurstperpoint.*—The Senecio can be obtained of Mr. W. Thompson, Tavern Street, Ipswich. You will find descriptions and designs of rustic baskets in the FLORAL WORLD of July, 1858; June, July, and November, 1859.—*C. J. F., De Beauvois Town.*—You did not prune the Duchess sufficiently close at first, you should have cut back to about three or four buds from the base, but that was not the reason of its after decline. Evidently the stuff you put your roses in is too poor, or you do not give enough water. Cabbage roses should be pruned back to a good shape, but not severely, else you may prune them out of bloom. Gooseberry bushes should be pruned in a similar way to black currants, that is, remove weak spray altogether, but leave all well placed rods if their full length, or but little shortened. We don't know Roberts's stove. Oblige us with a prospectus. Consult the "Town Garden" for a clear statement of the treatment of the rose in London.—*B. K. A., College.*—Of course we prefer real names and addresses, that we may know who we are obliging; but anonymous correspondents are always attended to if they write in time. We receive a bundle of letters every month *after* the number has gone to press, and our circulation is so large, that if we were to delay and delay to attend to every arrival of late letters, the work would not be published at all. Anonymous letters are destroyed as soon as answered; letters containing real names are filed in case we should again have to refer to them. We will endeavour to meet your views in good time to be useful. Your Magnolia is ferruginea, the season of bloom August. The male and female organs are contained in the same flower. Your borders will take a dozen pot trees on each side, if they are placed triangular fashion, thus ***.—*M. E. C.*—Woodlice are very troublesome in old frames. They may be thinned by pouring boiling water round the sides of the woodwork, or they may be trapped by putting a boiled potatoe among some dry hay, in a flower-pot, which should be shaken out into boiling water in the morning.—*H. W., Brixton.*—We suppose you to refer to the glittering white beds at the Crystal Palace last year. They consisted of Flower of the Day geranium and variegated Alyssum mixed. It is good in the shade, but when the sun is on it, almost painful to the eyes.—*L. T. P., Monmouth.*—Can't make it out.—*R. B., Preston.*—O. K.

THE

FLORAL WORLD

AND

GARDEN GUIDE.

May, 1860.

FLORICULTURAL SOCIETIES prosper and increase. The occasional decay of a society is exceptional, and usually easy of explanation; success is the rule. Such an evidence of the healthiness of domestic life in England is satisfactory in more senses than one. Dependent as we are on the fruits of the earth for material necessities and national prosperity, whatever agency promotes horticulture becomes an aid also in increasing the comforts of life, from the highest to the lowest ranks of society. But, as refinement of taste, cultivation of sympathy, and expansion of intellect, of necessity accompany the progress of the gardening art, societies for the encouragement of horticulture are in their very nature civilizing, educational, and elevating in all their bearings on the mental and moral life of the people. Those who engage in the practical task of furnishing an exhibition with the best examples of their skill are already at school and enjoying a course of tuition which will show good fruit in all the actions of their lives, while those who flock to the flower-show unprepared to criticise by a standard of ripe knowledge, but prepared to enjoy the spectacle in which art and nature have co-operated, in accordance with the Divine law which appointed man the tiller of the ground, are also taking lessons of the triumphs that may be accomplished by the exercise of perseverance under the guidance of judgment and good taste. Wholesome recreations are among the most efficient means of advancing popular morals, and the frequent public exhibition of horticultural produce is a public good, apart altogether from the benefits which result from improved science and increased production of the sources of wealth. We cannot but wish well to the many new societies which are springing up in various parts of the country; and, while we do so, we take opportunity to offer a few words of counsel to their promoters, with the view of averting dangers which may none the less threaten them, though at present neither seen nor anticipated.

How many of the dead societies made their cradles and their graves in public-houses? More, perhaps, than would be supposed, even by those who admit that such places are most unfit for meetings of the kind. Many as are the legitimate uses of a tavern, it is not the best, but the worst place in which a mutual improvement society of any kind can be located. That gardeners meet for mutual improvement is of course granted; if they meet for conviviality, their transactions do not come within the range of our criticism. Suppose the subscription to be six shillings per annum, and to be paid at the rate of sixpence a-month; there are of necessity twelve attendances, most probably twenty in all, when the whole year's transactions are included. Show us the man who will go to a tavern twelve times and spend nothing, and we will pronounce him a paradox; nay, a paragon. But as paragons (whatever they are) are scarce, the probability is, that each visit will entail an expenditure of sixpence, and thus virtually the subscription is doubled, and, worst luck, the society gets but half what is spent upon it. Social meetings are good, and taverns are good when rightly used, but public-house meetings invariably do mischief when men must of necessity attend them at stated times, and on business which begets conversation, exchanges of friendship, and lengthened deliberations as to important public proceedings. Gardening makes men domestic, but meetings at taverns undo all the good work, and, whether the purse be long or short, the money will run out of it as the gunpowder ran out of the heels of somebody's boots, in Quin's "Incoherent Story." Another evil—which many of our friends will say is no evil—is the custom of holding at the place of meeting an annual dinner or supper, paid for out of the funds of the society. If the members choose to eat salt together once a-year, well and good; there is nothing like good cheer and good fellowship, but public-house societies are generally careless of their funds, and the payment of costs for a dinner stultifies the society by a diversion of its moneys to an illegitimate purpose. In the case of a society to which the subscription is five shillings, the dinner will cost at least three. So horticulture gets two shillings, and the publican three—a very unfair division of the spoil for people who meet "purely in the interests of gardening." If the subscription proves to be sufficient for the prosperity of the society and the providing of dinner too, would it not be better to enlarge the schedule, give more prizes and larger prizes? or, if the members want something for their money above and beyond the advantages of association, why not give half the amount of subscription in tickets, and have an annual supper for those who like to pay for it, independently altogether of the association funds?

We must not be understood, however, to advocate the offering of large prizes as necessary to the success of a show. The majority of those who compete at local exhibitions do so more to show what may be done than for what they can get. Exhibitors like to win, and strive hard for it; but the value of the prize is not so much an object as the fact of taking one at all. At the great shows, where there is less local interest and a good deal of trade speculation instead, the value of the prizes is another matter. Those who send from great distances ought to make it pay if they can, both in honour and hard cash; and we all rejoice to see a successful exhibitor rising in the world and enjoying the fruits of his industry in an improved social status. But what do the thousands of amateurs want with money prizes? What would be the feeling of a victor in the Olympic games if his golden garland melted into thin air before he had fairly rested

from the contest? Pecuniary rewards are not much better than soap-bubbles to an amateur, who, by the very designation under which he enters the lists, fights for love, and not for money. Take a case:—An exhibitor sent some chrysanthemums from east London to the Crystal Palace. The carriage of the plants cost him twenty shillings, and he took a prize of five shillings. Had he received a five-shilling book or a five-shilling snuff-box, he would still be possessed of an agreeable remembrance; but, as it is, he is simply—fifteen shillings out of pocket! It may be said that he had also five shillings' worth of distinction by the entry of his name in the prize-list; but, when money is the only visible sign of a transaction, we immediately become commercial in our ideas, and count profit and loss as surely as we should in buying and selling. Take another case:—A gentleman built a range of houses, planted a garden, engaged skilful assistance, and became an exhibitor. One department he took into his own hands on the understanding that his prizes should be his own. Another department he gave over to his gardener. They both won repeatedly. To the first the prizes were of no importance when in money, but valued when in cups and medals; to the second, money was preferable, and properly so, as a means of increasing the comfort of his wife and children. Take another case:—A grower of chrysanthemums, in comfortable circumstances, and who, except for the love of floriculture, would never be at the trouble of exhibiting at all, has taken £50 in prizes, and the only things that remain as memorials of his success are a few silver spoons, which a society, possessed of more light than the rest, gave instead of money on some particular occasion, now almost forgotten. Some gardeners may prefer ornamental plate, and some amateurs may prefer hard cash, but societies are not to proceed on the principle of pleasing individuals, but on the principle of dealing with exhibitors according to the classes in which they make their entries; and, if an amateur be an amateur (that is, a lover of plants) we again ask, what gratification can he derive by winning money prizes at a flower-show? That a gardener should hope to gain by showing is another matter. To him growing and exhibiting are matters of business; a cup may be as acceptable as a purse, and his pride in exercising his skill as genuine and unselfish as that of the most spirited amateur. In the majority of cases it is so, and, therefore, the limiting of the prizes to money in the gardeners' classes is by no means so essential as the entire abolition of money prizes in the classes for amateurs.

One of the most gratifying circumstances in connection with floriculture, as a domestic institution, is its progress among the operatives in all our great towns. To these classes flower-growing will prove an antidote to the attractions of the tavern and the many questionable gaslight entertainments that consume their leisure evening hours, and at the same time waste their money and their health. Men who toil hard must have recreation. How much better to find it at home; and how much better, when they feel the want of society, to find it among those of their own order, who are engaged in pursuits that refine the nature and expand the mind, in intimate association with the green herb and the ruddy flower, which are the flourishing strokes of God's hand-writing in Nature. Thousands of the artizan class are engaged all day in occupations that sap the health and strength—in factories and among the fumes of metals and chemical works. How much must the assiduous culture of a garden do to neutralize the evils incident to their calling, and keep them in the possession of that

greatest of earthly blessings—a sound mind in a sound body, and both enjoyed in contentment and domestic peace. Do our wealthier readers, and the clergy especially, see herein a reason why they should act upon the hint given by Mr. Broome, and, by taking an interest in the prosperity of the societies in their own districts, render substantial aid in this great work of self-culture, of which floral societies are one good and promising sign?

Tiffany will not utterly supersede glass, but it will extend materially the range of horticultural resources, and enable thousands, who are not possessed of sufficient means for the erection of ordinary garden structures, to enjoy the formation and management of collections of choice plants that need some amount of protection from the severities of our climate. The mere cost of glass is not the only impediment to its use in places kept by humble people. To use glass, there must be good carpentry, good brick-walls, and a certain completeness about the structures that of necessity makes them expensive. Tiffany is so light that the merest skeleton of a structure is sufficient to carry it; and, for roses, tender fruits, and every kind of garden-stock which needs partial protection only, it answers not only as well, but better. We have just received a parcel of tiffany from Mr. Shaw, of Prince's Street, Manchester, which is to be used in the structure of an experimental house, and the weight of the eight pieces, containing eighty square yards, is twenty-eight pounds, and the cost of carriage to London only two shillings. The interesting communication from Mr. Standish, of Bagshot, which appears in another page, explains, in continuation of the article we published last month, the principles on which this light textile fabric is to be appropriated in lieu of glass for plant-houses. Though we have all been familiar with this material as the best that could be used for shading and for protecting the bloom of wall-trees, it is Mr. Standish's happy lot to become the poor man's friend, and show how certain departments of horticulture may be pursued with its aid at an outlay so small as to be truly nominal. Long ago, in the pages of "Garden Favourites," we suggested the construction of temporary canvas-houses for blooming pot-roses and chrysanthemums, the fierce summer sun and the sudden autumn frost being adverse to the success of exhibitors of these classes of flowers. We had only the shadow of the truth, Mr. Standish has grasped the substance; and growers of chrysanthemums will do well to avail themselves of the facilities afforded by tiffany-houses to insure a safe passage through such weather as visited us last autumn, to the ruin of the majority of the flowers everywhere. Mr. Standish is one of the most extensive and most successful growers of rhododendrons, vines, and half-hardy hard-wooded plants, and his testimony is sufficient to place this question entirely beyond the region of probabilities. He has, moreover, proved the certainty of the method during a winter of unexampled severity and continuance.

As some of our readers who use tiffany for shading may imagine they foresee some mechanical difficulties in the way, we will endeavour to anticipate at least some of the correspondence likely to arise, by stating that, when stretched quite tight and tacked down with list during dry weather, tiffany does not contract or tear itself away from the tacks on being subsequently wetted by rain. Neither does it "belly" or "sag," if supported

by a light rafter in the middle of each piece, as directed in the paper published last month. Mr. Standish's first house of the kind had a flat roof; he has since given the roof a slope, in order to throw off the water more readily; but the angle is of little consequence as regards rain falling. A very slight fall suffices to carry it away as completely as from a glass roof. It must be added, however, that, during very heavy rains, the moisture comes through in the form of mist on the windward side of the house, which will be no disadvantage to the class of plants for which such houses are adapted. Ordinary rains do not come through, unless the roof is flat, and then only in globules here and there, some of which fall, and some do not. Mr. Shaw has made improvements in the manufacture of tiffany, in order to meet the demand consequent on the new use to which it is to be applied. It is now made of double and treble strength, in pieces ten yards long by thirty-nine inches wide, which, on rafters nineteen inches apart, will allow of half an inch overlap under the list. These stronger kinds are sold at seven shillings and sixpence and nine shillings per piece. They may be mineralized, to prevent rotting, by soaking twelve hours in a solution made in the proportion of one pound of blue vitriol to every twenty gallons of water. The thousands of artizans whom Mr. Broome befriends with cuttings of chrysanthemums, and who, he says, learn to beat him with his own weapons, may take a new stride in growing and exhibiting, and cease to dread the November frosts that for three years past have all but made chrysanthemum culture a forlorn hope.

CHRYSANTHEMUM SOCIETIES IN THE LONDON SUBURBS.

Having been a subscriber to your valuable and cheap publication from its commencement, I can recommend it to all who are interested in gardening as an excellent guide in practical operations, and a faithful chronicle of events. I wish now to call the attention of your readers to the progress of floriculture within these last three years round the suburbs of London, and the benefits resulting therefrom to the operatives and cottagers; in fact, the associations are spreading all through the provinces. Never in my remembrance has floriculture been so taken up by the working-classes as at the present day, for, where a mechanic or a cottager has a sunny spot of ground, there you see him trying to grow a few flowers. The majority of them are very fond of chrysanthemums, on account of it being less sensitive to smoke than most other flowers, and, if they are at all skilful in growing them, they form themselves into societies, hold annual exhibitions, and invite the public to see them; and I assure you they make some of us gardeners blush to see how excellently well they grow them without any artificial means. They also make many a happy home for the wives and children, in keeping the industrious men at home in the summer evenings, and teaching their children to cultivate Nature's beauties, and creating a love for flowers in their minds when young, which they never forget when they grow up to manhood. My object in asking permission to call the attention of your subscribers to it is, that those ladies and gentlemen who wish to improve the domestic happiness of the humble classes, cannot do better than associate themselves amongst them, and encourage the good cause all they can by subscribing a trifle and becoming members; also in assisting in establishing as many as they can in thickly-inhabited localities. My practical experience in going among them proves the statement I make, as there are already upwards of twenty round

London—Camden Town, Stoke Newington, Kingsland, Tower Hamlets, Bow, Stratford, Woolwich and Greenwich, Bermondsey, Peckham and Hatcham, Brixton, Sydenham, Norwood, Kennington, Walworth, etc.—all working well.

They hold monthly meetings, read papers, have discussions on subjects relating to horticulture and floriculture, give plants to each other, and part by shaking hands all friendly and good-humouredly, like brethren who have learned to "dwell together in unity." Of course, now and then, a refractory member wants a little regulating, and has to submit to it, but not often. You cannot expect all to be of one way of thinking, and there will be exceptions, no matter what is the social order of those who associate together. I only wish I could spend all my time among them, and I should be happy, as the majority are well-conducted, industrious men, and deserve every encouragement; and I trust the readers of the Floral World will assist in giving a helping hand. I am happy to say that, south of the Thames, the clergy are taking up the cause with spirit, and I hope their example will be followed everywhere. I consider it my duty to assist them to the full extent of my power, feeling, as I do, it is a step in the right direction of improving the domestic life of the working classes, and thereby helping to make them happy.

Temple Gardens, April 16, 1860. Saml. Broome.

NOTES OF THE MONTH.

Vauxhall Nursery.—Exhibition of Camellias.—In no department of horticulture has the backwardness of the present season been more strikingly exemplified than in the blooming of camellias, which were just a month later than usual, and then none the worse for having been retarded. Indeed it was all the better for Messrs. Milne and Co., for when their plants were in a fit state for the admission of the public, the weather improved, and we had one bright touch of spring, which made the blood tingle afresh in the veins of horticultural people, and so thousands flocked to Vauxhall, and the show-house made a capital figure in the *Illustrated London News*. Long celebrated for its camellia-house, and for the origination of many of the best varieties, as well as for the extensive propagation of camellias as nursery-stock, this firm never sailed before public favour with so compelling and prospering a breeze as this year, when the camellias came out better than ever, and made a spectacle such as none who saw it will ever forget. The show-house is a lean-to, 180 feet long, with a comfortable matted walk, on one side of which the largest specimen plants are planted out at regular distances, and the spaces filled in with specimens in pots; and on the other, next the front sashes, is a table running the whole length, and liberally furnished with moderate sized plants in six-inch pots. The back wall is well covered with trained plants, and thus, on entering, you have before you a vista of camellias, admirably disposed for contrast of colour, and the abundance of bloom well set off by the wealth of healthy foliage. Here were all the good old kinds and all the good new ones; among the latter, many continental varieties, which have flowered in England for the first time this season. Among the larger specimens the following were particularly fine:—Donckelaari, six feet high, well furnished from head to foot, and blazing with its large, showy, mottled flowers. Chandleri, above ten feet high, and nearly ten feet through, was loaded with crimson, red, and blotched-white flowers, of immense size. Corallina, none the worse in such a collection for its opuntia-like character, was almost too heavily laden, and might have had a peck or two of buds removed without hurt to the show. The petals of this flower are as vividly coloured as if modelled of the best sealing-wax, and the foliage indicated robust health and the most liberal treatment. The old

Double White was charming. Elegans, perhaps the finest plant in the house, carried her very large mottled rose and white flowers from the ground line to a height of twelve feet. Many of the blooms on this plant were six inches across, and we counted over four hundred while waiting for Mr. Milne, and when he came in we gave it up, and left perhaps two hundred more uncounted. Woodsii and Altheæflora are in the same style of growth, rivalling orchard trees in magnitude, and as heavy with colour as a May-day garland, though in much better taste. Among the many other varieties, some of them new, which we noted as specially interesting, the following deserve mention here:—Duc de Chartres, carmine, blotched white; Duc de Bretagne, rose, beautifully formed, and fine substance of petal; Imbricata, glowing carmine, waxy petals, and here and there mottled with white; Marchioness of Exeter, rose, large flower, fine habit; Cup of Beauty, sent from China by Mr. Fortune along with Princess of Prussia, a splendid plant five feet high, blooms pure white streaked with pink; Archduchess Augusta, rosy purple striped white; Fordi, shining rose, small, and very neat; Valtavaredo, bright rose, occasionally blotched white; Archinto, white, carmine striped, very beautiful; Kossuth, scarlet, very full, and admirably formed; Cariophylloides, a new carnation kind; Lady Mary Labouchere, rosy purple; Optima, a magnificent flower, bright rose, foliage fine, and habit free and bold; Beali Palmeri, rich warm crimson, exquisite shape; Coquette, carmine dashed with white; Washingtoni, soft carmine, opens fine. As we lately gave a list of the best old varieties, it is unnecessary here to occupy space by repetitions. In the course of our inspection of this nursery we met with vast quantities of young stock in pits, the freer sorts on their own roots, and the choicer sorts grafted or inarched. Camellias planted out in the open ground have thrown off all their flower-buds, as they have also at Mr. Mongredien's, at Forest Hill, and in several of the gardens at Stamford Hill and Stoke Newington, where, in favourable seasons, they make a fine feature. Choice Americans are largely cultivated at this nursery. In the propagating-house, rhododendrons were in process of grafting in large quantities. Vines in pots were also a notable feature, and the usual candidates for bedding favours were to be seen on every hand in prodigious quantities. The flower-garden will, this season, be very attractive, and will doubtless afford useful lessons in colour to the readers of the Floral World who have their tents pitched on the pleasant road to Wandsworth Common.

Horticultural Society.—The most energetic action prevails at Kensington Gore, and plans of the new garden are being pushed on with extraordinary rapidity. The whole society, from the oldest of its officers to the newest of the Fellows, seems to have acquired new life, and public opinion is favourable, so that the new project is liberally supported both pecuniarily and morally. At Chiswick extensive alterations have been made, to render the place strictly an experimental garden, and very many nurserymen and amateur cultivators have sent collections of fruits, seeds, etc., for trial. The plans of the grounds at Kensington Gore are by Mr. Nesfield.

Royal Botanic, *March* 21.—At this exhibition of spring flowers, collections of hyacinths were shown by Messrs. Cutbush, Cross, Mackintosh, and Jackson. Cinerarias were very fine, and were contributed by Messrs. Dobson, Turner, Wiggins, and Smith. Among the other interesting novelties was a double primula, named Atro-rosea plena, shown both by Mr. Turner and Messrs. Henderson. Messrs. Paul, of Cheshunt, sent their new tea rose President, and Mr. Standish, of Bagshot, sent a new hybrid perpetual, called Mrs. Standish, which will probably appear again at the National Rose Show. *April* 4.—Cinerarias were again in the ascendant; among them one named Reynold's Hole, a dazzling crimson purple, from Mr. Turner. Mr. Wiggins, gardener to E. Beck, Esq., had a fine plant of Bridesmaid; and, among a lot sent by Messrs. Dobson, was one named Mr. Marnock, white ground, with

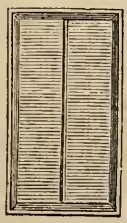
purple tips, and centre very good. A new forcing pelargonium, named Reading Volunteer, came from Mr. Hoyle. Mr. Holland, gardener to R. W. Peake, Esq., exhibited his new seedling Cineraria, Hilax, a finely formed flower, with even margin of crimson-purple and disk nearly black. This was conspicuous, as it stood with the same grower's plant of Fredleyana on one side, and Mr. Turner's Mrs. Hoyle before it. When let out, it will take the lead for some time to come. Fredleyana is a mazarine blue, not up to the mark in all respects as a florists' flower, but a tremendous grower, and fine for conservatory-work. Baroness Rothschild and Mrs. Hoyle, from Mr. Turner, were excellent in quality and size, bold flowers without coarseness. Messrs. Smith's plant of Mrs. Livingstone was admirably grown, and formed a perfect pyramid, but wanted another week's nursing to bring it out well. Mr. Holland's Evening Star was a small plant, but very pretty as shown; the blooms violet-plum with white ring. It is a troublesome variety to keep. Messrs. Dobson showed the best plant of Baroness Rothschild we have seen this season, and beside it was a miserable blue, unworthy of the exhibition-stage. Smith's Brilliant, a crimson self, was also conspicuous and well-bloomed. Some of Mr. Turner's plants had evidently been hard driven in heat, and were thin though uniform and full out. Messrs. Ivery, of Dorking, sent Azalea Leviathan, a description of which appeared in the "Garden Oracle." The blossoms are of the purest white, semi-double, and beautifully formed.

Sydenham Horticultural Society.—A public meeting was held in the National School-room, Sydenham, on the 9th, for the formal institution of this new society, several private meetings having been held previously for the settlement of preliminaries. The Rev. Charles English presided. The meeting was first addressed by Mr. Shirley Hibberd, who moved a resolution, "That such societies are the best means for promoting the improvement of horticulture, as they afford excellent opportunities for the interchange of practical experience among the members." Mr. Hibberd, at some length, enlarged on the benefits such societies confer, by bringing gardeners together as friends and neighbours, and he urged the necessity of a spirit of good-fellowship and mutual forbearance as essential to an enjoyment of the principle of association. Mr. S. Broome, of the Temple Gardens, seconded the resolution, and gave some interesting particulars of the spread of floriculture among the working-classes. Mr. S. Hereman, of Chatsworth, addressed the meeting in support of the resolution, which was adopted unanimously. Mr. S. Hodgkinson, honorary secretary pro tem., stated the origin and progress of the society. It originated entirely with the gardeners of the neighbourhood, who, during the past month, had had frequent meetings among themselves upon the subject, and they now were convinced that a society for mutual improvement and for flower-shows would succeed well here, with the assistance and support of the wealthy inhabitants of the neighbourhood. They had also drawn up rules for the management of such a society, which they now wished to lay before the meeting. The rules having been read by Mr. W. Reid, they were referred for consideration to the committee of management, and to report the same at a future meeting of subscribers. The following gentlemen and gardeners were then elected officers and committee of the society, viz.:—Thos. N. Farquhar, Esq., president; Rev. Chas. English, vice-president; Dr. Rowland, Esq., treasurer; W. Thompson, F.L.S., Mr. S. Hodgkinson, joint-secretaries. Committee: John Scott Russell, Esq., J. Cockerell, Esq., G. Grove, Esq., Rev. Mr. Snow, Messrs. H. Elliot, G. Farrance, W. Croucher, J. Jackson, W. Wood, J. Salter, T. Pullen, and T. Reid. Walter Reid, assistant-secretary. A vote of thanks to the chairman, for his kindness in granting the use of the school-room, and also for presiding over the meeting, was carried unanimously. The following gentlemen were enrolled as members of the society, viz.:—D. Rowland, Sydenham Hill; Samuel Ingall, Forest Hill; Augustus Sellem, Laurie Park; George Grove, Syden-

ham; W. Thompson, Notting Hill; Samuel Hodgkinson, Sydenham; Thos. N. Farquhar, J. S. Russell, J. Cockerell, C. S. Millington, — Whittaker, W. H. Lord, Captain W. Lord, Thos. Harrild, C. Davidson. Also the following thirty-one gardeners:—H. Eliot, J. Smith, John Stubleday, S. Wilson, G. Farrance, J. A. Summers, R. Inman, W. Wood, W. Reid, T. Reid, J. Cook, J. Drewit, W. Croucher, J. Speiring. — Vickery, J. Salters, W. Wallis, D. Scarf, J. Jackson, J. Willoughby, T. Pullen, — Batts, — Heath, C. Lowns, — Sharp, — Rump, J. Greenway, J. Guzett, J. Hopkins, F. Redwards, and R. Stamford.

FRAMES OR SASHES FOR VARNISHED COTTON OR CALICO.

"A. B." wishes to know what sort of frame I use for stretching the cotton or calico on. I shall be very glad to describe them according to my abilities, but I cannot pretend to know much about the carpenter business, and I hope he will therefore excuse me, as I am unacquainted with the terms used in sash-making. They are made of yellow pine timber, very much resembling the roof-sashes of a peach-house or vinery, or as a common sashed window, for convenience of giving a current of air. The lower sashes draw up, and the upper draw down. My sashes are each six feet long, by three feet broad. The frame is of yellow pine, as above, three inches by one inch and a quarter, with one divisional rod in the centre from top to bottom, one



inch and a quarter square, which strengthens the frame and supports the cloth. The calico is fastened on the frame before it is varnished, with tacks, stretched very tight, leaving about one inch and a half of the frame clear all round, to give them room to slide in the rafters, or sides of the box. The tacks are put in about one inch apart. I then stretch cotton tape, about half an inch broad, on the edge of the cloth and over the tacks, fastened with tinned tacks, as they are not so apt to rust. This makes a neat-looking finish on the sash, which very much resembles the lists of cloth used on Mr. Standish's tiffany-house and screens, in the April number of the FLORAL WORLD. The sash is now ready for varnish, giving it two or three coats, each being allowed to dry before the next is put on. The first coating requires more varnish to fill the cloth than two or three coats will do afterwards, as it takes but a small quantity to glaze the surface when once the cloth is full. I think it would do well to give it a coat every season before using, as the glazing is very apt to wear off by the action of the weather. I have had some of it in use three winter seasons, and it still appears to be as fresh and good as when new, although it has only got two coatings of varnish. When first used, it has never appeared to green nor lose its transparency in any sort of weather, with the exception of one cover, which was done with a mixture of raw oil; the calico appears to be rotten, and very easily torn, which proves that raw oil rots the cloth. If these sort of sashes are to be used on turf or any other kind of pit, I would recommend as much angle or slope as possible. I would also recommend more divisional rods, as it would make less strain on the cloth in case of heavy falls of snow, perhaps three or four rods in a three-feet sash. We use what is called couple [copal?] varnish, as it is much cheaper than some of the finer sorts. I shall be very glad to give your readers any information on this subject that I may have omitted, as far as my experience goes; and I would also be very thankful to receive, through your columns, any intelligence from those who may have more experience.

P. SIMPSON, *Gardener.*
Kingcausie.

STOCKS FOR BLOOMING NEXT SPRING.

THERE are three kinds suitable, namely:—Queen, with close sitting flowers; Queen, with blossoms rather spread out; Brompton, that do not branch out, and form only one stem, on which there is formed in the spring, as on the stock wall-flower, one blossom stalk. The winter stock, besides the last-mentioned species, develops a strong bush on a low stem, and presents at the time of blooming a splendid sight: it is principally applicable to ornament flower-beds to be placed before the windows, because it develops its flowers early in the spring. As those with full flowers are most esteemed by amateurs, it is necessary that the sowing should not be too late, so that they may show blossom in the autumn; the most fitting time for this is from the beginning to the middle of April, and to the middle of May. The sowing is done in the same manner as that of the summer stock, and the treatment is the same, with only this difference—that the summer stocks are planted immediately where it is intended they should remain, whilst these are re-picked, and must be placed again in a cold bed, as mentioned for the sowing of the summer stock; when this is done, the chief root of every plant must be supported, that it may make more side roots, which is of great importance to their subsequent development; after replacing, the plants must have closed air for some days, and shade, if necessary; they require but little time for growing up, and after that they must again be accustomed to the air, and the lights must be removed during the daytime in favourable weather. At the end of May or beginning of June they will be strong enough for transplanting. Beds which have not been manured lately should be chosen for this; however, the ground must not be too poor, nor too hard. Plant in rows one foot apart, the plants about one foot distant from each other; after they have been thus planted they must be strongly watered if the weather is dry, and kept clean from weeds by frequent raking and loosening; should there be continual dry weather after they have been planted, it will be necessary to repeat the watering until considerable growth is made. In favourable weather the first buds will show themselves at the end of September, and they are immediately cut for implantation; for this purpose the plants are carefully lifted up with a spade, and the roots entirely freed from the earth sticking to them; if there is no opportunity for implantation near by, it would be advisable to cover the lifted-out roots with wet moss to protect them from withering. The most suitable earth for these winter stocks is a nutritious, clay-like, grass bank earth, to which must be added, in case the earth is too binding, a sufficient quantity of river sand. Care must be taken in the implantation that the injured roots are cleanly cut and that they are sufficiently supported; the pots must be large enough to allow of the extension of the roots: although all this has been done, still care must be taken that the plants do not penetrate more deeply into the earth than they were in the open air. After the implantation they must be placed in a cool, shady situation and be well watered; there they must remain until they are completely grown, and occasionally slushed with water, but only when the earth is very dry, which may be easily known by the fading of the leaves; they may then be removed to protected shelves before being taken into winter quarters. Particular care must be taken in wintering these stocks that they are watered as little as possible, and that they are not kept too warm, so that they may not begin to shoot too soon; in spring, when growth is again strong, they may be freely watered.—*Carter's Gardener's Vade mecum.*

TIFFANY FOR WINTER GARDENING AND ORCHARD-HOUSES.

HAVING felt the want of a place for shading, and for hardening off plants taken from the propagating-house, before placing them out of doors or before sending them away on a journey, I thought from the texture of tiffany it would be just the thing to cover a place which I call the tiffany-house. It is made with larch poles, seven or eight feet apart, and seven feet out of the ground (unbarked), the tops

cut off square and gouged out to receive the imposts which are formed of rather small poles sawn through the middle and nailed to the uprights, round side downwards. Cross pieces of deal, one inch and a-half by three-quarters of an inch thick, are then introduced to form a stout frame, over which the tiffany is stretched and nailed on with list. The cross pieces should be nineteen inches apart, the tiffany being thirty-eight inches wide; thus taking two cross bars for each width of tiffany, or the wind will get hold of it and fray it to pieces. During the winter and early part of the season, the sides are covered, except a portion to give air. The lower part, or one half, covered with the same material, nailed down on pieces of wood, the same as on the top; but the upper half is covered with a stronger material and let down with small wooden rollers. My tiffany-house is sixty feet wide by ninety feet long, and laid out in beds underneath, where I placed a great number of plants, during last summer, which, without a single exception, have grown better than I ever saw the same plants grow under glass; and as a test for light I placed a few roses there, which grew and flowered admirably—in fact, I never saw them finer—and the teas have remained all the winter without the slightest injury, whereas all the tea-roses out of doors, even the Gloire de Dijons, have been killed. I consider tiffany the cheapest and best material for many gardening purposes that has been known for years, and quite a boon to gardeners, and from my experience with it I believe that it can be converted into winter gardens, orchard-houses, shelter for fruit-trees, and for growing salads during spring and summer. Lettuces, radishes, etc., might be grown under it at all times of the year, as they would be protected from the frost during winter and early spring, and in summer from the fierce rays of the sun, thus making them more delicate and of better quality than when grown in the open ground. I believe I shall be able to ripen nearly all kinds of fruits under tiffany; and as an experiment I have erected an orchard-house, where I intend to grow peaches, nectarines, plums, vines, and a variety of other fruits. The following is a skeleton house before the tiffany is put on, and the cost is so trifling that it may be well called an orchard-house for the million. My house is sixteen feet wide, and twenty-seven feet long, made of larch poles. The butt ends serve for posts, and the tops, sawn through the middle, placed with the round sides downwards, serve as rafters and side pieces to nail the tiffany on—all placed at nineteen inches apart, so two rafters are wide enough for one width of tiffany; but as the house will require air in mild and hot weather, I have small frames or flaps, twenty inches wide by six feet four inches long, fixed with hinges on the ridge-board, to open with a piece of strong string, fixed to the middle of the flap and drawn through a small pulley which is screwed into a piece of wood, about a foot long, fixed on the top of the ridge-board, as shown in the sketch published in the last Floral World. In appearance it looks quite as well, if not better, than a glass structure, and at one-tenth the cost; viz., the whole cost of the above house, when finished, with tiffany, was under five pounds, reckoning every thing; but in a garden where there are plenty of handy men, who could do a good deal of the labour, it need not cost more than one half. It may not be generally known that the finest pears, both as to flavour and size, are grown in the most temperate parts of France and the Channel Islands, where it is never very hot nor very cold, in fact, a long temperate season. By the use of tiffany I intend to produce such a climate in England; as I find in my tiffany-house, after twelve or fourteen degrees of frost, the soil, seven feet from the top, is not even frozen. In very hot weather the scorching rays of the sun are broken, in winter the frost is kept out, which makes the air more temperate than under glass, and consequently more adapted for growing such fruits as pears. I should recommend erecting a tiffany-house where all the finest French pears might be grown, as the blooms in spring will be protected from frost, and the season lengthened in autumn so that they get thoroughly ripened. For protecting pyramid-trees already grown in the open ground I propose driving in split larch poles, eight poles for a single tree, with a frame to connect the poles at top, with a wooden pulley let into one of the poles, which should stand up above the others, and a cap or frame to fit the top to draw up in mild weather, and in summer to be kept up entirely on the plan represented in the article already referred to. This protection, I anticipate, will benefit the fruit all the summer and autumn as well as the trees. Wall-trees require a series of frames, with two stumps for each frame driven into the ground, about four feet from the wall, with a couple of saw cuts

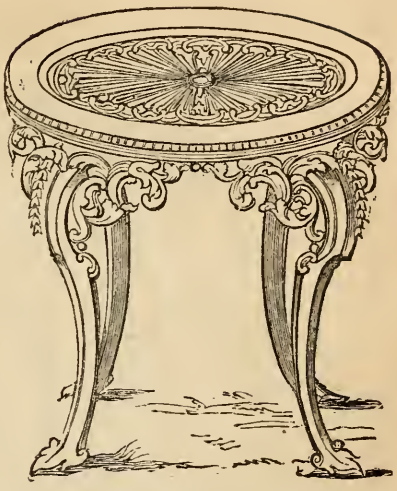
in each post, sloping from the edge downwards and inwards towards the middle, to receive the lower part of the frame; the top part to be fastened with two iron hooks, about a foot long, so as to keep the frame about one foot from the wall, fastened to two strong eyes driven into the wall; the opening to be covered with a flap like those in the tiffany-house, and when shut should fall down on the frame; each flap should have a couple of straps of iron, the ends of which should have hooks to them, and hitched into a couple of eyes, to serves as hinges. This is for giving air during all mild weather, the whole of which could remain all the summer, or be taken away in a few minutes, as found best for the trees. Another and most delightful purpose the tiffany can be used for, is making a winter garden for protecting and shading such plants as will not flourish well in the full sun, as camellias, daphnes, skimmias, Chinese berberis, etc. A walk might be made, with gravel in the centre and borders on the sides, the whole covered with tiffany, at such trifling cost so as to give persons with small means an opportunity of growing plants, such as they never grew before. I am confident that camellias might be grown under it without the slightest assistance of fire heat, as well as a great many half-hardy plants which cannot be grown in the open air. For the information of the readers of the FLORAL WORLD, I may add that Mr. Shaw has recently made a great improvement in tiffany, by making it somewhat stronger, and has mineralized it, so that it will last much longer than formerly. From the experience I have had with it, if well tacked down with list, which is indispensable, I have no doubt it will last two years. So that the expense of tiffany will be about one half of what it would cost to have a glass structure *painted*.

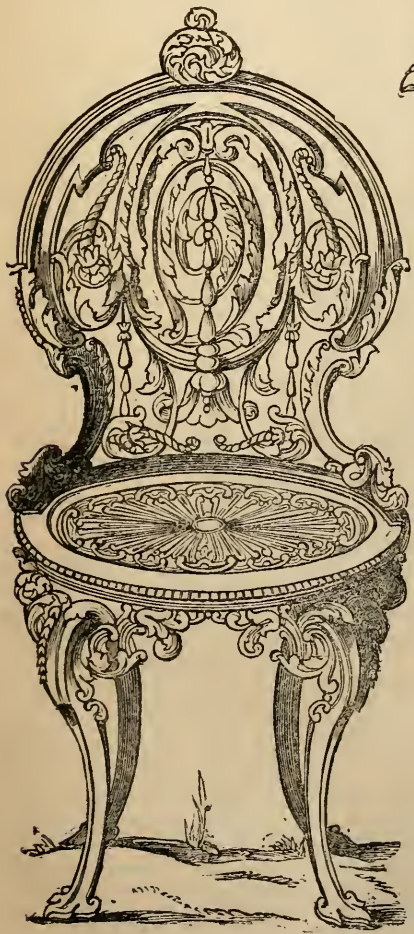
Royal Nursery, Bagshot. J. STANDISH.

CAST-IRON GARDEN FURNITURE.

WE call attention at this season to some excellent examples of rustic work in iron which are introduced at a cheap rate by Mr. Jones, of Bankside, Southwark, the well-known manufacturer of Monro's Cannon boiler. We have often spoken in praise

of the excellent rustic work in wood got up by Mr. Curry, of Brook Street, Upper Clapton, who is unquestionably the leading man in the production of rustic ornaments. These iron chairs and tables of Mr. Jones's are intended for those who cannot afford polished yew slabs and elegant tracery in pine knots and hazel rods. The rustic table here figured is suitable for use on a lawn or in a summer-house. It measures twenty-two inches across the top, and is twenty-five inches high. To our thinking, the feet are clumsy, but that may commend it to some people who are not particular as to symmetry in rustic work. The price of this is 11*s.*, or, if bronzed, 13*s.*





The small table is exquisitely designed. It stands sixteen inches high, and measures sixteen inches across the top. It forms a most elegant work-table, or could be stood almost anywhere for use—in an entrance-hall, a summer-house, or conservatory. A pair of them would be useful for a *tête-a-tête* in the garden, and, when done with, could be put away without consuming much space. The price is 10*s.*, or, if bronzed, 12*s.* 6*d.*

The chair is also a well-modelled example of iron-work, needing no comment. It measures thirty-six inches by sixteen inches. The price is 16*s.*, or 20*s.* bronzed.

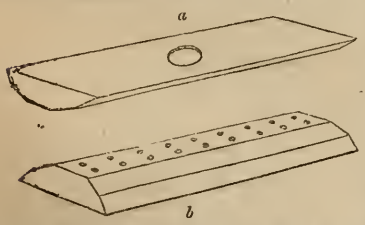
The garden-seat is also in cast-iron, and takes to pieces to be put away for the winter. The design and price pleased us, and we ordered one for our own use, and find it equal to the figure, and altogether a very cheap and excellent specimen of workmanship. The length of the seat is four feet, and the price only £1 2*s.*, or, if bronzed, £1 10*s.*

Mr. Jones has only to make known the style and prices of these goods to ensure customers by thousands.

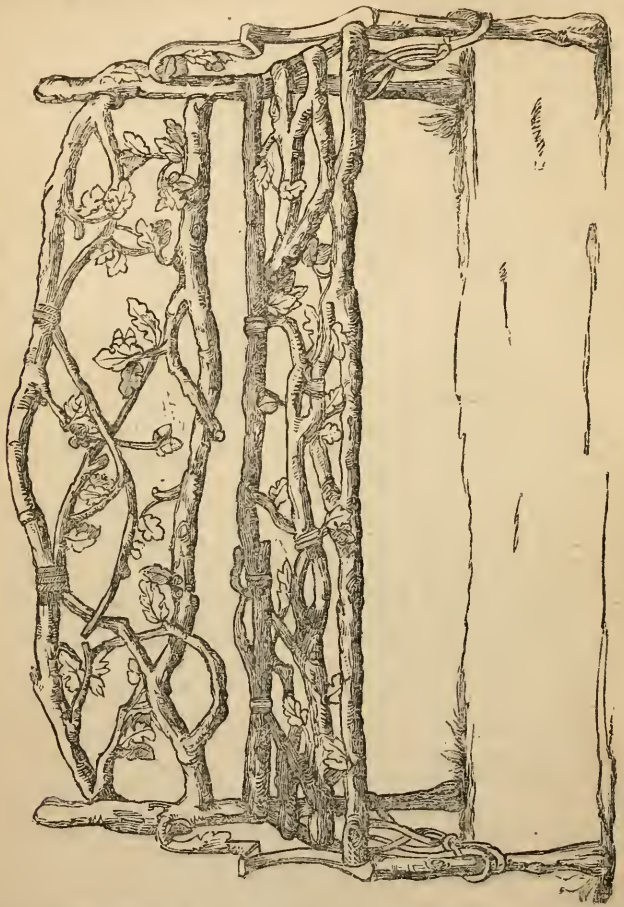
NEW MANURING-TILE.

On visiting the well-kept garden of our friend, Mr. Hodgkinson, of Sydenham, we were shown some rows of strawberries which are watered with liquid manure by a very ingenious process.

The plan of under-ground pipes for supplying water direct to the roots is one we have adopted in the culture of ranunculuses, much to the benefit of the plants and the lessening of labour, as, by turning



a tap, the bed could be saturated at any time by the flow of the fluid from the pipes; but this plan of Mr. Hodgkinson's is an improvement, and is wholly accomplished on the surface. The tiles are one foot long, and made as represented, *a* being



the upper, and *b* the under side. They are not all perforated on the top as shown at *a*, but, at distances of three or four yards, there is such a perforation, large enough to receive a sixty-sized pot. They are laid on the surface, in a line, between two rows of plants, and, the water or liquid manure being poured in at the orifices, runs along the pipe, and passes through the small holes in the tile direct to the roots of the plants. Thus one important purpose is accomplished; but another advantage is, that the tile screens the roots of the plants from the heat of the sun, and preserves a moistness in the soil long after the liquid has drained away, and the plantation is

preserved in the utmost neatness and cleanliness. We need hardly say that Mr. Hodgkinson is well repaid in the abundance and excellence of the produce; and, by the luxuriant appearance of the plants when we saw them, we should anticipate for him a heavy crop this season.

ROSES BLOOMING TO THE GROUND.

It is quite needless to waste time, or ink and paper, in recommending the queen of flowers to the favourable consideration of the readers of the Floral World, for, despite the thorns with which she is almost invariably beset, the mere mention of a rose inspires a wish after the feast of colour and fragrance, which in truth is the flowery essence and joy of the summer. The veriest dolt can appreciate a rose; the merest child has reached the acme of enjoyment when it has become possessed of an unfolding rosebud; and the perfect symmetry, indescribable tinting, and rich perfume of the rose afford exquisite enjoyment to the most refined and educated mind. So universal is the love of this flower that I should think there is not a garden in the united kingdom in which there is not some apology for a rose. In naming the occupants for a new garden, the rose is not only never forgotten, but occupies one of the first places in the arrangement, and even the town garden would be no garden unless it could boast of a rose or two. I wish to say a few words about pegging down roses. There is no plant that produces so gorgeous a display of flowers as the rose when grown in masses and pegged down, so as to cover the surface of the soil with flowers. For this purpose, dwarf plants on their own roots are the most suitable, as, when the shoots rise directly from the soil, there is no strain upon them, and no danger of breaking them in the operation of pegging. The best kinds to use for this purpose are those which make very long and very strong shoots—Brennus, Vivid, Paul Ricaut, Coup d'Hebe, Fulgens, Chenêdole, Juno, and Charles Duval, among Hybrid Chinas; Alexandrine Bachmeteff, Auguste Mie, Baronne Prevost, Jacques Lafitte, Jules Margottin, Laura Brigeon, Leon des Combats, Madame Vidot, Mathurin Regnier, Souvenir de la Reine d'Angleterre, William Griffiths, Dr. Juillard, and Geant des Batailles, among Hybrid Perpetuals; Dupetit Thouars and Leveson Gower, among Bourbons; and, among Noisettes, Aimee Vibert, Desprez a Fleur Jaune, and Du Luxemburg. All the above-named make long and vigorous shoots, will flourish in almost any soil, and will thrive in the neighbourhood of large towns.

Their management is exceedingly simple. If they are grown in a bed by themselves, let the soil be well prepared by trenching two spades deep, and six inches of good rotten dung put at the bottom of the trench, and a coating of two or three inches on the top, to be worked in with the soil about the roots when planting. When the plants are all inserted, dig the surface over, to bury all the manure and give a neat appearance. If the roses are mixed with other plants, give them as good a chance as possible, by taking the soil out as deep and wide as the position will allow, and work a little rotten manure in with it, as directed for a bed. As beforementioned, the plants for this purpose should be on their own bottoms; and, if they are good plants and well planted, they will make shoots three, four, and five feet long the first season. They should not be interfered with, but be allowed to grow upright, and remain so until March or April, when they should be slightly shortened in, and then brought down and fastened to the ground by pegs or hooked sticks, strong and long enough to hold them; or, lacking hooked sticks, cut hazel-rods, or rods of any other durable wood, of the thickness of a finger, into lengths of fifteen or eighteen inches; thrust them into the ground to within two inches of the top, then tie a piece of bast matting or tarred string tightly to the stick, and bring down the shoot to it. The latter mode of the two is most easily accomplished, looks best, and is most effective for strong shoots. If a bed is to be covered, the shoots of the different kinds can be so intermingled as to give variety in colour, and, where plants are growing in mixed borders, the shoots, supposing the plant to have four or five of them, can be laid down among the surrounding plants without detracting from the neatness and finish of the flower-border. The advantages of this mode of treatment are, that the shoots bloom all the way along, instead of a few bunches at the top, when

allowed to grow upright. Then their beauties are spread out under the eye. Again, being so low, and firmly fixed to the ground, the wind has but little power to injure them. Lastly, the leaves and flowers, being near the soil, they imbibe its moist exhalations, which improve their richness. In pruning, the shoots which have flowered must be cut entirely away. The strong vigorous shoots which are to succeed will invariably be found to rise immediately above the root of the plant, or rather from the point where the shoots are bent over. Those who have lost the usual season for planting their rose-beds, have still a last chance left them. If they procure pot-plants and turn them out at once, and liberally mulch the surface, they may enjoy a feast of roses this season. In cold, wet soils, and in bleak, exposed situations, May planting from pots is preferable to planting in November or February.

Stamford Hill. WILLIAM CHITTY.

CULTURE OF CHRYSANTHEMUMS FOR BORDER DECORATION.

THE quantity of rain, followed by sharp frost, has destroyed a great number of the best border varieties; therefore I recommend amateurs to look over their stock as soon as possible, and make good those that are lost. Take up what remains, and carefully divide, with a little root to them. Replant in leaf-mould and sand, sufficient to start them. Water when planting. Pot about three suckers triangularly, eight inches apart. Break the lumps of earth small round the surface, to prevent the wind and air getting to the roots. Do not water much, or they will damp off. If you have more plants than you require, place them in a sheltered position in the garden, as a reserve, in case of some going off; if not wanted, you can give them to your neighbours afterwards. If the pompones are drawn eight or nine inches long, take out the crown to keep them short, and get the laterals to throw out more freely. What sorts are lost, go to your friends and make exchanges; perhaps they may have them, and you have what they want. Do not delay too long in making up your stock, as the time for planting borders is quite late enough now. Put them in a good depth if they are much drawn up. Take off all bottom leaves that are under the surface. Any sorts you are very short of, take off sufficient shoots to strike, and pot them in silver sand and light loam, in a cold frame, with very little water, and shade them for nine days, if the sun is bright.

Temple Gardens. S. BROOME.

CULTIVATION OF THE FANCY PELARGONIUM.

THE fancy pelargonium is one of the most useful subjects for culture in ordinary greenhouses, and it is moreover a general favourite. Its profusion of bloom, long continuance, short sturdy habit, and many delightful tints of colour, render it popular with all lovers of flowers, and insure its cultivation, to an extent commensurate with the glass accommodation, in all good gardens. As it is now coming into bloom, collectors of varieties, who can avail themselves of the opportunity, will do right to visit the principal exhibitions, where may be seen the results of skill and care, that have combined to rear and preserve, and bring to perfection as specimen plants, some of Nature's most beautiful objects. At the exhibitions, the amateur grower may obtain hints for improving a collection, by noting new varieties, and judging of the style of cultivation most suitable for each particular kind, and for the particular structure in which the plants are to be bloomed. To give a universally correct style for a specimen is somewhat difficult, as it wholly depends upon what it is intended for; we see pyramids trained so regularly as to terminate at top in a single central bloom, which, if for a low position in the conservatory, show their blooms admirably, but we do not set much value upon them for general purposes. Others are grown to a perfect circumference with a medium rise in the centre, suitable for a low stage or a flat table. This is a very showy

and effective style, and one we much admire. Some have the back trained perpendicularly, and the front shoots brought below the rim of the pot, so as to form a pyramid or half-circle. These are most suitable for a lean-to stage, as they show a large front. In forming, or first training for a specimen, bear in mind that as the twig is bent so will the tree be inclined, hence the necessity of deciding early upon the description of plant required. Plants grown as bushes, and in larger pots than thirty-twos, soon require considerable thinning, or they will become weak. The time of propagation depends on whether the plants are bloomed early or late; for the main stock, July may be taken as the average time. Supposing the plant to have done blooming, and the wood to be well ripened, from full exposure to the sun, and from three or four days' dryness at the root, they are then fit for cutting down. Upon the way they are cut depends the form of the plant the ensuing season, the object being to have an uniform plant without much twisting, and upon an established bottom, large or small. After cutting down, place the plants in an open place, shading for a few days, until the ends of the shoots that have been cut are dried over. Water but moderately until there is a sign of fresh growth, then give a slight syringing overhead and shut up early with the sun, so as to cause evaporation, which will much assist them in making fresh growth. After the first start, they are to be grown as slow as possible through the autumn and winter months. The next operation, after cutting down, is to select cuttings of the strongest and the best ripened wood, in lengths of two joints, with a straight cut at the bottom, a little below the lower joint, and a slanting cut of a half-inch above the top joint; place them in the mould round the sides of the cutting-pot, midway between the two joints. The mould should be a compost consisting of loam three-fourths, leaf-mould, or peat, one-fourth, with a medium addition of sand. Give them a gentle bottom-heat, and shade lightly for two or three weeks, by which time they will have struck, and should then be taken to a cool house, and gradually hardened off so as to bear full exposure to the sun and air. They should then be potted off as soon as possible before the roots get too long; indeed, it is thought by some that if they are merely callused over, they are fit for potting off. I, however, like to see a few fibres, but not too long, the one excess being as bad as the other. After potting off, keep them rather close for three or four days, and shade from hot sun, then give a full circulation of air at all opportunities, avoiding easterly winds. Attend to potting on until you reach the sized pot intended for blooming; gradual shifts from one size pot to another are to be recommended as preferable to large shifts. If intended to bloom the plants in forty-eight size pots, they should have three changes from the cutting-pot, and the crown, or centre bud should be taken out in the second shift; but if the growth be then not far enough advanced, it should be removed as soon as possible after the last potting, keeping the plants rather dry for a few days until fresh breaks appear, otherwise weakness may be expected. If intended to bloom in large sixties, no stop is required, and if properly grown side breaks will appear at the same time that the crown truss is forming, thus supplying a succession of bloom. For specimens, commence with small plants of free growth, allow them to attain the height of nine joints, with two joints for a single stem, not merely for the appearance but to diminish liability to canker, which may be feared if the breaks are allowed to rest upon the surface soil; also by constant pottings the plants are liable to get some portion of the bottom breaks below the surface of the soil, particularly such as are known amongst growers as of a "miffy" habit, that is, of a delicate constitution and high breed, as for instance Cloth of Silver, Modestum, and Prima Donna, which require great care to be taken as to their watering and drainage. Suppose then that we have a plant in a forty-eight size pot, eight or nine joints high, ready for its first stop, take the crown clean out, midway between the two joints, keep the plant dry for three or four days, unless the season of the year should be hot and cause it to flag, then a slight watering overhead would aid the action of the sap in the foliage. The first breaks will soon make their appearance, provided the root action be all right; after the first breaks have attained the length of six or seven joints, they should have their first stop whatever mode of training may be adopted. The training usually followed is pegging the shoots out; I prefer tying a piece of bast round the pot, close underneath the rim, and bracing the shoots down to it, which is a neat and ready system. When the breaks have attained the length of six or seven joints they may be stopped again and tied out. The exact time of stopping

must depend upon the quickness of growth in young plants, but avoid stopping after March if possible, and at furthest not later than the middle of April, otherwise there is not sufficient time for ripening the wood, a matter of the greatest importance to insure good quality of bloom and well establish the specimen.

JAMES HOLLAND,
Gardener to R. W. Peake, Esq.,
Spring Grove, Isleworth.

ANNUALS FOR BEDDING.

THERE is great consternation and dismay everywhere about the losses inflicted by this seemingly interminable winter, which began on the 20th of October, and was not ended on the 27th of April last. While we wait a little longer to determine how far trees and shrubs have suffered, let us consider the case of those who look forward to the time of bedding out—which will come, spite of present weather—and who have nothing left to begin the (Floral) world with. Soft-wooded plants have been decimated, except in places where they never lose a scrap of anything. In frames, and other unheated structures, all that remain of the autumn-struck plants are the dead stumps and the tallies, and even fuchsias were late in making wood, and spring-struck cuttings and tender annuals are more prone to damp than to grow. Well, make the best of it. Foreseeing that thousands would be in difficulties, I long ago bethought me of what might be done if we had no bedders at all, and yet were full of the present fashion of arranging summer plants in masses of colour. So, putting the geraniums, and verbenas, and petunias out of view, I sowed a ribbon of annuals, on the 20th of March, and at the same time set two Waltonian cases to work, for the mere pleasure of keeping the candles in use, and I mean to have plenty of colour, and turn over the usual bedding stock to other uses in the lower part of the garden. The ribbon measures five feet six inches across, and is edged with Hogg's tiles, has a rich background of evergreens, repeated in regular masses of colour, and terminates against the side of a small rock bank, planted with conifers. The annuals are in four lines—back line, Collinsia bicolor, purple and white, that is lilac, eighteen inches; next, Venus's navelwort, silver, eighteen inches; then Sanvitalia procumbens, yellow, fifteen inches; front, Saponaria calabrica, pink, fifteen inches. The heights will do to a nicety, and if you like that style, and are as perplexed as the rest, sow at once, and you will have bloom almost as soon as I shall. In front of the ribbon line, in a central space of gravel, stands one of Ransome's Jardinets, of silecious stone, which all the winter has been furnished with conifers in pots. To be in keeping, that was sown with Iberis Kermesina, a new crimson-purple, of close habit, and profuse bloom. A narrow cross border, under the front wall, is sown with Nemophila insignis.

As chrysanthemums have been punished for several seasons in succession here, I have determined not to be bothered with them in the borders any longer. The large kinds will make a good show in a tiffany-house; the choicest of the pompones will do for greenhouse; and the free sorts, such as Bob, Drine Drine, Brilliant, Requiqui, etc., are hardy enough to face out the weather for beds and ribbons, and will be got into pots from their nursery quarters at the end of July, so as to be plunged when showing bloom in their places. This change, and the removal of the herbaceous perennials to places prepared for them above the general level, has made room in the borders each side of the turf for a profusion of annuals, which are sown in order of heights and colours all along. The shrubs are five feet apart along these borbers; between the shrubs are the tallest annuals; then, in the line of the dwarf shrubs and roses, the next size; and along the front the dwarfest, to make close patches. Along the back row the sorts sown are — Chenopodium atriplicis, handsome foliage; Crimson beet, ditto; Argemone Barclayana, cream; Pæony poppy, splendid glaucous foliage, and exquisitely formed flowers; Calliopsis atrosanguinea, crimson; Calliopsis nigra speciosa, dark; Gymnopsis uniserialis, yellow; Helianthus argophyllus, charming silvery foliage, five feet, and requiring a large gap between Spiræas or other slender shrubs; tall larkspur; Nicotiana glauca, fine foliage, six feet, a pinch up long ago in heat, and now nice plants in 60's; Ricinus species, also good plants in 60's, from the heat of Sherwood candles; Œnothera biennis in a

nook by itself, too coarse for a neat border line; Giant Prince's Feather, five feet, has a superb effect in front of a privet fence, among evergreens. In the next line of intermediate kinds, ranging from eighteen inches to two feet, are the following:—Amaranthus caudatus; Arctotis grandiflora, handsome foliage, and a profusion of orange flowers; Beta braziliensis; Calendula hybrida; Calliopsis bicolor nana, and Burridgi; Scorpiurus; Centranthus; Chrysanthemum tricolor and Burridgeanum; Chrysocephalum arenaria, good silvery foliage if it does not bloom; Clarkia integripetala, a great improvement on the old pulchella; Dianthus coronatus; Gaillardia hybrida grandiflora; Helichrysum capitatum; Lindheimeria texena; Tagetes erecta and signata; Salpiglossis; dwarf scarlet Scabious, to please the bees; red Valerian (the white never comes good near London on a heavy soil). The front, or dwarfest, line includes—Aster tenellus, blue, eight inches; Campanula pentagonia and speculum, blue, eight inches; Candytufts, white and purple, separate; Lobel's Catchfly, red and white, twelve inches; Clintonia elegans and pulchella, six inches, also forward in heat; Cochlearia acaule, a little gem, with dove-coloured blossoms only an inch high, charming on shelves of a rockery; Cotula aurea, yellow, six inches; Cynoglossum, blue, four inches; Escholtzia tenuifolia, primrose, pretty leaves, and only six inches high; large-flowered Forget-me-not, under the shade of trees blooms abundantly the first season; Gilia tricolor, nine inches; silver Hawkweed, twelve inches; Isotoma petræa alba, a close-growing and true bedding annual, starry-white flowers, one foot, and may be clipped like a box edging, and flower all the better for it. Kaulfussia amelloides, blue, six inches; Lotus Indica (or Trigonella corniculata), yellow, six inches; Nemophila marmorata, a charming new variety, flowers marbled white on a dark ground, similar to, but better than maculata, the muslin flower; Nierembergia filicaulis, white and lilac, eight inches, also forward in heat; Œnothera bistorta, Veitchiana, prostrata, and Drummondii nana; Tom Thumb yellow Tropæolum, Trentham pansy, blue, from cuttings; Portulacca roseo pallida, rose, four inches; Sabbatia campestris, rose and yellow, six inches; Saponaria calabrica, rose, six inches or less; Schizopetalon Walkeri, six inches; Spraguea umbellata, the new Calendrina-like plant brought out by Mr. Veitch last year, red-crimson flowers, nine inches, also forward in heat from early sowings; Veronica Syriaca, blue and white, also capital for pots, as a companion to the pretty Fenzlia dianthiflora. Six beds on the turf are sown in match pairs with Veronica Syriaca, Escholtzia lutea, and Kaulfussia amelloides. Sow very thin in large patches, cover with a little very fine earth, and thin the plants when up, the largest growers to three or four in a clump, and the dwarfs to three or four inches apart. Poor soil and thick sowing make annuals like weeds. Rich soil, plenty of room, and large clumps, and then they do their duty.

Now this assortment does not include all the annuals available for lines and masses. There are the Viscarias, Oxyuras, Silenes, Phlox Drummondii in twenty varieties, Zinnias, Asters, etc.; and all these last-named, and all named in the foregoing enumeration, may be sown on the open border to bloom well this season, some late, but the majority in good time to be useful; for though the wind is now N.N.E., and the temperature of the earth at its lowest, the change will be great and sudden within the next three weeks, and all sorts of tender things will start away with vigour, and many of them beat those raised in pots for turning out. When pressed for space to get up a batch of half-hardy things in frames, I adopt a plan which is very simple and efficient. The patches are sown on a sunny border, and covered with twelve-inch circular seed pans, bottom upwards. The moisture of the earth penetrates the pan, the sun makes it hot, and the ground temperature is not only increased but maintained, and sudden night frosts can do no harm in nipping the seedlings as they come bristling through the ground. Of course, if the pans are not lifted then, the seedlings would be blanched; and the pans are removed, and their places supplied with squares of glass, tilted at the back with pieces of tile, just sufficient to give the young plants head room. Short branches of fir, or other evergreens, stuck in front of the seed patches, will do much to keep off the keen winds and break the force of hail and snow, and also help the soil in storing up sun-heat. Better still, with such things as portulaccas, asters, balsams, and marigolds, is to sow in a frame placed in the full sun, under a wall or fence, and cover with a mat or tarpaulin for a week to give the seeds a first start in darkness, and a warm, close air. After that be careful not to get them damped, but there will be little danger even for a fortnight. Another plan I adopt to get up seeds of tender things and save the

trouble of making up a dung-bed is to sow in the square pans made by Messrs. Adams, of Belle Isle. Cover each pan with a square of glass smeared over with wet clay, and put them on the top shelf of a lean-to, where the wall keeps them hot by sun-heat, and the glass prevents evaporation, so that no water is required till it is time to shift them and remove the glass. When a lot of pans are filled with fine compost, they are saturated with boiling water, which kills every concealed enemy, and the seeds sown while the soil is still warm. There is no fear of damping, if the young plants are looked to at the right moment, and transferred to a shady place, with moderate ventilation, and no more water till they really want it. But what of the ribbon and beds when the annuals are over? Why, from a shilling packet of Lobelia speciosa, last year, I got fifty yards of blue for ribbon. My lobelias will be out of their pans, and showing bloom in thumb-pots, long before the annuals are gone, and they will all be clipped over to make new growth, and show bloom again in time for service. Then there is the choice of—for front row, Cerastium tomentosum, fifteen inches, which does not come into the category of tender bedders, for it has kept out of doors here in the wettest part of the garden, as well as in frames; next row, Lobelia speciosa, fifteen inches, Tagetes miniata, a dwarf brown marigold, No. 868 of Henderson's Catalogue, eighteen inches; for third row, Perilla nankinensis, eighteen inches, and planted in three rows, six inches apart all through, diagonally, thus, * * * The perillas, lobelias, and * * * tagetes came along with age- * * * ratums, balsams, cuttings of fuchsias, and a dozen other things of the same degree of hardness, with one candle power in the Waltonian. By burning two candles at a time, and changing the water twice a-day by means of a tin pipe and funnel, melons, cockscombs, and cannas, and a dozen or two other stove seeds, come as quick and as sprightly as in brisk dung-heat. The people who pronounced the idea erroneous have had to eat their words; so much the worse for condemnations based on professional jealousy.

Then, for similar quick work, and nesting next to nothing, we have the variegated mint. Get young growth, and top and strike to any extent you please without bottom-heat. Three joints of the young growth make the best cuttings. Shade, moisture, cold frame, pot into thumbs when rooted, and turn out when these are full of roots, but beware not to put the mint anywhere near the Cerastium, for they spoil each other. Asters, sown the first week in May, and grown in a generous mixture of sandy loam and old dung, and not allowed ever to get root-bound, will show bloom just in time to follow the hardy annuals, which, in well-kept gardens, should be cleared off the moment they begin to look seedy. Now that asters are positively perfect as to shape and quilling, and of all shades of colour, from white to crimson and purple, a set of them, well arranged, would make a ribbon border or geometric garden magnificent from the 1st of August till the first thorough frost. Last year I grew Betteridge's, supplied by Mr. Turner, and they were the finest lot I ever saw, better than the majority shown at exhibitions. They were well fed with both solid and liquid food, were shifted on to forty-eights, and then turned out in a rich border, and never once needed fumigating or tying up. Their legs were as sturdy as balsams, though not so fleshy. This year I have had a set of continental-grown seeds from Messrs. Henderson, one hundred seeds in each packet, separate colours, and the first sowings look just now as if they would overtake the dahlias. Don't be led away by the catalogues which say, sow in March; the end of April and first week in May are the proper seasons to escape fly and get them forward with least trouble. Now, if you still want variety, look over your old fuchsias, take off young side shoots by a snap with the thumb, so as to have the heel with each. Pot them round the sides of pots, using plenty of sand; cold frame and shade, and in the middle of July every one will be in flower unless starved. Climax, Bo-peep, Little Treasure, and Cœur de Lion, make a capital bed, the first for centre, and the last for edging. Fair Oriana is the best of the whites for a bed; Roi des Blanches the next best, and a true white, without trace of green in the sepals. The Duchess is not beaten, but the flower is lanky, though pure in colour, and abundant; Queen of Hanover admirable. The new manure, "Stercus," a fine, dusty material, like powdered peat, will do wonders as a mulch in places exposed to the sun, and ill supplied with water. It is the refuse of wool manufacture, and is rich in ammonia, and seems never to get dry. The roots of roses, fuchsias, vines, pelargoniums, cinerarias, and verbenas, run into it as if by instinct, and for whatever plant likes good living, it is invaluable. S. H.

REMINDERS FOR MAY.

Auriculas will want fumigating before they go out of doors to rest. Put them out on a hard bottom, and shelter only from heavy rains by spare lights.

Azaleas to have shifts if the soil is exhausted. If larger pots are objectionable, turn them out, remove as much of the old soil as possible without breaking the ball, and put them in the same pots again with fresh stuff for them to work into. To insure the moistening of the ball through, plunge the pots to the rim for an hour in a tank or tub of water.

Bedding-plants to be finally arranged as to sorts and numbers, so that there may be no mistakes at turning out. Order at once any quantities required, as there is a great demand this season, and the first come will be best served. Stout, stubby, short plants are to be preferred; no matter if they are not showing bloom.

Calceolarias for show, keep shaded, well syringed, plenty of air, and refreshed with liquid manure.

Camellias, keep warm and shaded, plenty of syringe, and those in the most forward growth a little liquid manure.

Cinerarias, plenty of water and constant shade while in bloom. Liquid manure every other day. Plants out of bloom to be kept rather dry and cool, to get strong suckers. The lists should be made up while the exhibitions last, for the improvement of collections. Beware of choosing from dressed flowers.

Climbers in conservatories to be looked over in good time, and use knife, and nail, and shreds as required, so as to get the new growth where wanted, and in regular order.

Cold frames to be got in use for hardening bedding-plants, for sowing tender annuals, and for cuttings of chrysanthemums.

Cucumbers, keep very moist; thin the vines where crowded, turn out fresh plants for summer supply, and sow at once, if not done, for ridge-culture. Henderson's A 1 ridge-cucumber is a strong-growing hardy variety, admirably adapted for cottagers.

Dahlias to be cooled down and hardened. Give choice sorts intended for exhibition another shift before turning out. Any turned out early must be protected with bell-glasses or a pot turned over them at night, and a mat over the pot. But there is nothing gained by early planting, except in the case of beds and ribbon lines.

Fruit-trees newly planted should be mulched with grass mowings. Bush-pears are greatly benefited by being kept moist round the stock and over the surface roots. Thin the fruit on walls where crowded.

Fuchsias struck now will make good autumn plants for beds to follow annuals, and for windows. Geraniums, verbenas, petunias, and most other bedders struck now and liberally treated, will give plenty of bloom in August.

Kitchen crops to be kept clean with the hoe. Young plants from seed-beds to be pinched out as fast as a few can be got large enough for the purpose without waiting for the whole batch. Any that have missed to be made good at once. Sow broad beans, peas, radish, onions, cabbages, cauliflowers, Scotch kale, beet, kidney-beans, saladings, spinach, turnips, carrots, endive, and ridge-cucumbers.

Pelargoniums to have plenty of sun till showing colour, and then to be shaded from eleven to three or four. Specimen plants to have plenty of water, and twice a-week a dose of liquid manure, pretty strong. The pelargonium-house should have hexagon-netting stretched over the ventilators to keep bees and flies from the flowers.

Stove.—Many plants here will require a shift. Use the syringe freely; plenty of air. Pines, 75° at night, and 85° day.

Strawberries must have lots of water and liquid manure. We shall mulch ours with the new manure, "stercus," which is the refuse of wool factories. For top-dressing it is unequalled, and also for plunging material for plants in pots.

Vines will be beset with red spider if not closely watched. Paint the hot-water-pipes with sulphur, or use Gishurst compound. Bunches not yet thinned should be attended to at once, and completely, so that there may be no more handling.

TO CORRESPONDENTS.

TOMATOES IN POTS.—*A. B.*—We should not expect good fruit in less than six-inch pots. In five-inch pots they would give half-a-dozen fruits each, if kept strong with liquid manure. They ought now to be strong plants, with half-a-dozen or more rough leaves upon them. Powell's Early Tomato will suit those who sow late, as it quickly makes up for lost time.

FERN CULTURE—GARDENIAS.—*A. B. S.*—Asplenium nidus is ordinarily propagated from spores. A healthy plant never makes offsets. For spores, therefore, you must wait in hope. Mr. Chitty tells us of a plant which lost its crown through bad management, but, after being kept with care for twelve months, it made three offsets, which are now independent and respectable young plants. Asplenium Halleri is not in Mr. Sim's catalogue; but remember that is a catalogue of plants offered *for sale*, and if Mr. Sim has no stock of it sufficient to justify an entry, there is no reason for it to appear. In Smith's catalogue, 1857, page 45, Asplenium No. 27, it is entered as synonymous with *A. fontanum*. Whether it has at any time assumed a form to lead Mr. Smith to such a conclusion, we cannot say; but we believe it to be distinct from *A. fontanum*, which, under liberal treatment, makes fronds four or five inches in height, sharply serrated, and pinnated; whereas, *A. Halleri*, under the same treatment, does not grow half the size, and the serratures and pinnules are obtuse and rounded. Gardenias infested with black fly should be put into a brisk atmospheric warmth, be well saturated with moisture, and have frequent syringing to induce root action, and the fly will disappear. Keep in peat till June, then transfer to a cool pit, and after that set them out in the open air, in a warm place, to harden till September, when they should be returned to the greenhouse, and have only just enough water to retain their foliage through the winter. In February set them going again in heat, either in a dung bed or a moist stove, and you will have plenty of bloom, and no more fly.

EUGENIA UGNI.—*J. R., Ballymacheogh.*—The reason we have deferred giving any lengthened account of Eugenia ugni is, because we were waiting to decide some few points as to the management of the fruit to insure good colour and the relative hardiness of the plant. The late severe winter has settled the last-named point to some extent. The plants put out at Stoke Newington, under a south-west wall, grew vigorously, and endured the severe frosts of 1858-9, but were killed to the ground last December. At Forest Hill, a fine plant stood in Mr. Mongredien's peat bed, beside Grieslinia littoralis; the Grieslinia is as hearty as ever, but Eugenia is gone. In your milder climate it may probably be quite hardy under a west wall, and your moist soil will agree with and suit it well. In ordinary winters it has proved hardy near London. So, also, Farfugium grande would probably stand the winter well with you; but here we have been afraid to put it to such a trial, though now it is to be had cheap we shall do so. Plant it in a deep, rich, loamy soil, in a shady situation, and leave it to itself. With the Pampas grass, you inhabitants of the Emerald Isle may do wonders.

CHRYSANTHEMUM LISTS.—*J. R.*—You complain that La Vogue, Bob, Brilliant, and others, give fine top blooms, and few side blooms. Now, if you had read your FLORAL WORLD with attention, you would have learned by this time that the top buds should be taken out as soon as they show themselves in plants not intended for cut blooms. Here is a list of *early flowering* sorts:—*Large:* Albin Gondereau, crimson plum; Aurore boreale, orange, with narrow gold tip; Poudre d'Or, purple mauve, and reddish orange; Sabrina, white, first-rate for borders; Triomphe du Nord, light red chesnut; Viscomtess de Belville, silvery rose; Génévieve, paper white; Madlle. E. de Voison, white; Madame Pertuzes, orange-crimson anemone, excellent for borders; Vesta, white. *Pompones*—Emma, rosy purple; Madame Pepin, red and orange; Mont Blanc, white; Boule Rose, blush; Argentine, white; Atala, white and rose; Autumna, orange brown; Drine Drine, yellow; Charlemagne, red; Graziella, blush rose. *Twelve Earliest Pompones*—Adrastus, hybrid mauve; Andromeda, lilac rose; Arc en ciel, carmine; Frederick Pelé, bright crimson, splendid; Hendersonii, yellow; La Niege, white; Marechal Magnan, rosy lilac; Madlle. Lucille, yellow; Mr. Perdueet, hybrid crimson; Orion, yellow; St. Flore, blush; Scarlet Gem, crimson scarlet. —*J. Booking.*—*Six Anemone-flowered* for blooming under glass: Mr. Astie, gold yellow, a brilliant flower; Golden Cedo Nulli, makes a grand specimen; Astrea, lilac blush and gold centre; Mr. Shirley Hibberd, rose lilac and gold centre, very distinct; Robert le Diable, red salmon; Margueridetto, rose carmine.

HORTICULTURAL SOCIETIES.—*Constant Reader* will gain information and intellectual companionship by joining a society. He will learn the minutiæ of specimen-culture from fellow-members who are devoted to exhibition-culture, have the advantage of exchanging seeds and cuttings, and have opportunities of doing good among his neighbours by aiding in the spread of horticultural knowledge. Perhaps for what he may do there may be as great an inducement to join as for what he can get. The penalties of membership include payment of subscription, occasional suppression of differences, attendance at meetings, and perhaps the holding of office—penalties which are pleasures to men whose heart is in the cause. Farfugium grande will stand the sun, but is better in a west aspect. Wire-work may be in the best taste as an accompaniment to burr edgings, if not over fantastical in pattern.

VIOLET CULTURE—ORNAMENTAL GRASSES.—*M. L. S.*—We are quite surprised to hear of violets refusing to bloom at Wanstead, where there are millions about the roots of the pollard trees, and along the shady sides of the water-courses. We have them as thick as a carpet, and as luxuriant as ivy along the foot of a privet hedge, and the only treatment they get is an accidental chop now and then from the spade, and we can get a dish of blooms to put in sand under a bell-glass any time in their season. You must plant in a shady place, in a mixture of rich sandy loam, peat, and charred rubbish, and then leave them alone. They don't like to be disturbed. But better than the wild violet is the Neapolitan, which forces admirably. Russian violets are very hardy, and there are several varieties—single and double white, and single and double blue. The usual seasons for planting out of doors are February and October, but you may plant now, if you can get good plants in pots that have not been forced. Give plenty of water all the summer, and remove any runners that are likely to render the clumps too crowded. The grasses you have in pots should be planted out as soon as possible. As they have been raised in heat, they must be hardened off first in a frame. They will die down in autumn, and be seen no more.

SEEDLING PINKS AND PANSIES.—*Young Subscriber.*—One reason why people fail to get good double carnations and well-shaped pansies, is because they begin with bad seed. Unless saved

from the very best flowers, which always produce the least, it is waste of time even to sow it. Pay a good price, and go to the most respectable dealers, and then do your best to grow it well. We will suppose you to have done as advised last month, and now some of the seedlings begin to look promising. Sow again for pinks, carnations, and picotees the first week in June, and sow now another pinch of pansy. As soon as your seedling pinks are large enough to handle, pot them into thumb-pots, in a mixture of peat, very old cow-dung, silver sand, and yellow loam, equal parts. When they fill those pots with roots, shift into sixties, in three parts turfy loam, one part old cow-dung, and one part leaf-mould. Keep these for blooming in pots, and let the last shift be into ten-inch pots, in pairs, with plenty of drainage. Give plenty of water, and keep in a cold frame till frost sets in, and then move to the greenhouse for early bloom. Allow only one stem to a plant, give liquid manure frequently, and thin the bloom buds, and you will have good flowers, some better than others, and the very best to be kept and propagated by pipings. The summer sowing is for the main stock. Sow on a rich border, and as soon as the plants will bear transplanting plant them three inches apart in a bed, in two parts turfy loam, and one part old cow-dung. Give plenty of water in dry weather till the middle of September, and then remove them to the places where they are to bloom, the soil to be enriched for them. The most promising to be potted in pairs, in three parts chopped turf, not smaller than walnuts, with all the dust mixed with it, and one part old dung. Pansies you may sow every three weeks all the summer. Those to bloom in the open ground to have a soil liberally enriched with cow-dung, and made light, if necessary, by the addition of sharp sand. Water liberally, give preference to a spot partially shaded, and you will soon have plenty of bloom. From the best take cuttings of young side shoots, avoiding all old hollow stems. Those to bloom in pots should be in a mixture of turfy loam, well rotted or slightly charred, to kill the grass, and one-third dung from a cucumber bed. Begin with thimble-pots, using at first a very sandy compost. Shift as required. Use no artificial heat. Bloom them in seven-inch pots, and shade while in bloom. Plenty of water and weak liquid manure.

VINES IN A CURATE'S VINERY.—*N. S.*—To leave a vine "three feet in length, the thickness of a cedar pencil, with a dozen buds on it," as received from the nursery, will not do. Cut it down to the plumpest bud, about six buds from the base, and rub away the three lowest buds. You will thus have perhaps three buds and a leader. Let the leader start along with the buds left below it, till these side shoots are two inches long. Then pinch them back, and a fortnight afterwards remove them altogether. You will thus get a straight strong rod to train along the trench. Next season, cut back the leader to twelve buds from the base, and then the side shoots are to be allowed to push till they show their bunches, and then be stopped one bud above the bunch, and all laterals be stopped two buds from the base of the shoot they come from. Every year you must leave on each spur a bud for fruit and a bud for wood, the wood bud to be the one next the base of the spur, and the fruit bud to be the fourth or fifth from it; the intermediate buds to be removed. Glad to hear of the profit you derive from the perusal of the FLORAL WORLD.

TROPÆOLUM CULTURE.—*T. S. Rathferland.*—We cannot say why your Tropæolum Jarratti and tri colorum should die off so suddenly. Very likely the pots were not well drained. They like peat and rotted turf from a loamy pasture. Turn them out, and you will perhaps discover better than we can guess why they failed so suddenly.

LIME-TREE CATERPILLARS.—*J. Y.*—"A row of lime-trees in the front of our house for the last two years has been devastated by a small green caterpillar, which has literally destroyed the leaves before they came to maturity. Can you suggest a remedy?" Limes have many enemies, as we know to our own vexation, having a piece of lime-hedge that is frequently disfigured. The caterpillars that attack limes are those of the lime hawk-moth, canary shouldered thorn-moth, buff-tip, gypsy, dagger, and vapourer. As soon as they appear, lay a sail-cloth, sheet, or tarpaulin under the trees, and shake the trees or beat them with large poles, and numbers will be dislodged, and may be destroyed by sweeping them into a hole and covering with earth. Repeat this process frequently, as many escape the first beating, and also capture the moths which may be found sitting on the trunks of the trees, where they collect to deposit their eggs.

SOLANUM CAPSICASTRUM—ERICAS DONE BLOOMING.—*Lansdowne.*—This must be treated as an annual, and when the fruit shrivels throw it away, and keep up a succession of plants from seed. The ordinary mixture used for calceolarias will suit it admirably. Sow in dung-heat, and grow the plants fast in full sunshine and with plenty of air and water all summer. Ericas done blooming should be repotted if they require it; if not remove the surface soil, and dress them with fresh peat, full of grit and fibre, and put them in a cold frame, setting each pot on an inverted pot. All pots must be well drained, and plants have air night and day all through the season. Shade from the fierce mid-day sun.

LATE VINERY AND GREENHOUSE.—Mr. Howlett does not state how the front sashes of the vinery, at p. 25 of February Number, are to be made to open. I should like to know. It strikes me that a plan of a late vinery, to be used also as a greenhouse, say 34 feet long by 14 broad, or even of somewhat less dimensions, with provision for merely keeping out frost, and an approximate estimate of the cost, would be useful to your readers. The price mentioned at p. 25 of this year, namely, £300, is an appalling sum. It is true that by cowoining and docking the plans, given at various times in the FLORAL WORLD, such a house could perhaps be arrived at; but, besides that, an inexperienced person would have some difficulty in doing this—he might fall into some mistake. The author of the plans could do it at once with ease.—*Alexander Bayle.*—Each light is to be hung by what are called "butt joints" to the top plate, so that when required open, the bottom is to be pushed outward. There are plans in use by which the whole of the sashes of a house may be made to open at once. One method is by having an iron bar the whole length, to which is attached jointed levers, so that when a handle is *pulled* at one end of the building, it gives a contrary action to the levers, and they in consequence *push* open the lights. A clever blacksmith can manage this; but the least expensive plan is one that has been long in use, and consists in attaching a flat iron bar to the lower edge of each light, by means of an eye and a staple, so that it has liberty to work; the bar to be pierced with holes to fit on to an iron pin fixed in the sill, so that the light can be kept in any position desired; when the light is shut, the pin would be in the first hole, and the bar itself would lay across the front stage. The other matter will have attention at some future

time, when the room can be found; but should there be any immediate need, a working plan could be prepared for a small sum, and Mr. Howlett would be happy to do it if communicated with through us.

AZALEAS AND RHODODENDRONS.—*Subscriber from the First.*—All the Indian azaleas could be grown and flowered in a tiffany-house, or cool greenhouse. We shall, long before winter gives signs of approaching again, have something to say about heating such structures without the necessity of flues. Any of the nurserymen who advertise in the FLORAL WORLD would supply you with plants, and for a beginner the best way is to order so many at such a price, and take what comes. After that, you can add at any time, from the descriptions we give, such as you consider suitable to your convenience and pocket. The whole twenty-four varieties named in the FLORAL WORLD of January last, can be had for £5; or, excluding four of the newest, for £2 10*s.* These four newest are—Distinction, 10*s.* 6*d.*; Flower of the Day, 21*s.*; Miltoni, 10*s.* 6*d.*; Variegata superba, 21*s.* Rhododendron Javanicum, Nilagiricum, and retusam are usually grown in the stove; but all the stove kinds will prosper in a greenhouse if encouraged in their seasonal growth with a little extra heat and atmospheric moisture. Of course you must have good peat for them—that is the first essensial of success.

EMIGRATION TO AUSTRALIA.—*Emigrant.*—Horticulture has taken deep root in all the great centres of prosperity in Australia; and we believe there are opportunities in all the thriving districts. Our colonial papers give reports of horticultural exhibitions frequently, and English gardeners read them with surprise when they learn therefrom that many favourite flowers and fruits of the old country, which at first were difficult of culture in Australia, now flourish beyond precedent. At Hobart Town, and Melbourne, and Sydney, there is plenty of room for men of enterprise and ability, and those already located are doing well. No one hears of gardeners coming back disappointed. We do not approve of your plan of going; you ought to be able to land with money in your pocket, so that, in the event of not obtaining a situation immediately, you will be able to live and persevere. To one troubled with asthma, Australia is a better climate than the north of Britain. We would not wish to discourage you, but we cannot help suggesting that unless you have introductions, or a place ready to receive you, there will be more difficulties in the way than you can afford to encounter in your circumstances.

SCHOOL AT BAGSHOT.—We have received a prospectus of the school conducted by our correspondent, Mr. Waymouth, late of University College, at Duke's Hill House, Bagshot. The system adopted is such as to develop the natural talents of the pupils, and to fit them for professional and mercantile life. The requirements of the University Middle-Class Examiners form the basis of the course of study, and the number of pupils is limited to twenty-seven.

ERIANTHUS RAVENNÆ.—This new and beautiful ornamental grass resembles Gynerium argenteum, and will make splendid tufts for rockeries and water scenes. The foliage is of a most graceful character, and the plumes of flowers silvery white, and very conspicuous among autumn scenery. Best sown in a pan, and when six inches high parted and planted out in clumps in rich sandy soil.

VARIOUS.—*J. R.*—Countess of Ellesmere is excellent if in good soil, and with liberal treatment; but Holland's Queen will beat it. *C. J. F.* —Robert's stove appears to be a cheap and convenient thing, but as we have no knowledge of its action we cannot give an opinion of its merits. It may give out poisonous fumes, and it may give a very sweet heat: that can only be decided by trying it. Hoare's book on the grape vine is a masterpiece for the culture on walls. *Rev. T. B. T.*—Any of the London nurserymen can supply you. Mr. Shaw's address is Princess Street, Manchester.

TALLIES FOR PLANTS.—*R. R.*—The neatest of all tallies, for a collection arranged botanically, are those made of white porcelain, the face bent back to receive the inscription, so as to be read without stooping or looking sideways. The best ink for them is ivory black and gold size. Zinc tallies should be painted with white paint, and written on with a black-lead pencil while wet; the muriate of platinum generally used is most unsatisfactory, for though indelible it is almost illegible. For wood tallies, the newly invented marking-ink pencil, manufactured by Mr. Dunn, of 1, Durham Place, Dalston Green, London, N. E., is an admirable thing. It is made in the fashion of an ever-pointed pencil, writes easily, and the inscription becomes jet black in a few hours, and remains so. We have tried to wash it off, or weaken it, but unsuccessfully. It is also suited for marking linen, and will be invaluable to housewives. The price of the pencil is 1*s.* 6*d.*

CELERY ON LIGHT SOILS.—*Subscriber.*—We regret we cannot make room now for a treatise on the culture of celery. The grand thing is to feed it abundantly. Plant in soil heavily manured, and in trenches running north and south. Use abundance of liquid manure all the summer, and do not begin to earth up till it is pretty well grown, as the moulding up checks its increase of bulk. Very good celery for mere cooking purposes may be grown in beds. Sow now on a four-foot bed, in drills nine inches apart. Thin the plants to six inches apart in the rows, and use liquid manure whenever you can spare it. For soup, this is as good as that grown in trenches, but is quite unfit for table.

BRIXTON, STREATHAM, AND CLAPHAM HORTICULTURAL SOCIETY.—A public meeting in behalf of this society will be held on the 2nd, respecting which particulars may be obtained of Mr Case, 7, Lutheran Place, Tulse Hill, London, S. The rules are admirably constructed, and merit the earnest attention of the gardeners and gentry of the neighbourhood. Mr. Hibberd and Mr. Broome will attend the meeting.

ORNAMENTAL GRASSES, ETC.—*R. R. R. Deptford.* —We have failed to find the letter to which you refer, and conclude that it did not reach us. The hardy bamboo is Bambusa arundinacea; it should be planted out in May, in rich deep loam, and then left to itself. Dactylis glomerata is altogether a distinct grass, which forms a fine spreading tuft three feet high, and grows in any good soil. Of course it is the variegated variety only that is worth growing in gardens. Dactylis cæspitosa is also a distinct grass, and less ornamental than the foregoing. The only culture required is plenty of water, to induce vigorous growth, and if the plants are in a border they must be supported by one or two invisible hoops of wire, fastened to light stakes, to keep the tufts from being blown out of shape. If on a bank, let them open as they like without supports. Tell us what you want to know about the other plants you mention, and we will reply by post immediately. Mark the letter "immediate," that it may come on from our publishers without delay.

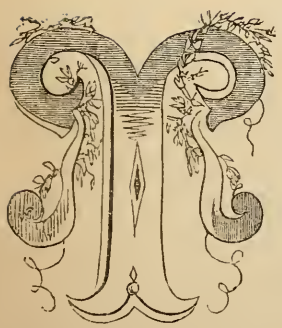
THE

FLORAL WORLD

AND

GARDEN GUIDE.

JUNE, 1860.



HE HORTICULTURAL SOCIETY has taken a new lease of its life. At the moment of apparent extinction it has undergone rapid juvenescence, and, Phœnix like, may now spurn the disasters that brought it to the dust. The proposal of a grand garden at Kensington Gore took root in the public mind instanter. The requisite £50,000 was obtained as soon as asked for, and instead of a debt of £8000, bearing interest, and contract debts amounting to £2700, which the Council had to face at the beginning of 1859, there is a prospect now of continually increasing resources, and the Society enjoys undivided favour with the general public. At the anniversary meeting, held on the 1st of May, the whole story of the Kensington project was related, from first to last, in the report. After stating the first negociations with the Royal Commissioners for the Exhibition of 1851, the following brief summary is given of the terms agreed upon for a lease of twenty acres:—The Commissioners to expend £50,000 upon a highly decorated Italian Arcade, and certain costly earthworks required as the foundation of a garden. The Commissioners to claim no rent until the expenses of the Society—which include interest upon money borrowed—shall have been defrayed; all income beyond such expenses to be apportioned in the manner following; that is to say, interest to be paid by the Society on the £50,000 borrowed by the Commissioners, and then, as rent, one moiety of any surplus that may have arisen during each year. The Commissioners to grant the Society a lease of the land for thirty-one years. The amount of annual expenditure and the mode of general management to be determined by a joint Committee, consisting of six members, of whom three shall be named by the Commissioners. The Society to lay out a sum equal to that of the Commissioners in the formation of the garden, one

feature of which would be a Conservatory or Winter Garden of considerable extent; and also to provide reasonable facilities for *the admission of the public at a low price*. The Council could not but feel that such an offer was deserving the favourable consideration of the Society, and they were of opinion that the income to be expected from a place of such magnificence, in the finest situation in London, would justify the acceptance of the terms, if not in their integrity at least in some modified form. They also learned with the highest satisfaction that the Queen had been graciously pleased to signify her Majesty's intention to contribute to the fund that would have to be raised for carrying out the works.

The result of the Committee's unremitting labours, and the liberal patronage the Society has received, is, that the garden is now in process of construction. The diagram, on another page, will enable our readers to judge of the general plan of the new garden as designed by Mr. Nesfield. It is wholly ornamental, and in the most florid style possible, consistent with the site and the absence of architectural masses. The ground slopes from north to south, and this feature will be turned to account for a series of terraces. On the upper terrace will be placed a grand conservatory, with a colonnade extending round it, which will afford a promenade three-quarters of a mile in length, wholly sheltered from the weather. Mr. Eyles, the garden-superintendent, is pushing forward the earthworks with the utmost possible speed, and it is expected that the garden will, for the most part, be completed by Midsummer, 1861. In the meantime the garden at Chiswick has been considerably restored, under the able direction of Mr. Eyles, and a course of experimental culture has been commenced for the purpose of determining the relative merits of various edible vegetables and fruits, in which the Society has been largely assisted by contributions from various trade and private growers.

The references to the plan will explain its details sufficiently for the present. While this progresses, and the day of completion draws near, we would suggest to the Council the necessity of providing for the day when the novelty of the new garden will be over; when the excitement consequent on the revival of the Society will be past, and the general public prepared to support whatever new and attractive candidate for favour may present itself. Corporations are apt to be over conservative when rich, and over radical when poor; and as the Society is now on the tide of prosperity, the Council will not perhaps be too ready to take into consideration the interests of the middle and working-classes as identical with the interests of the Society. The thousands who are now liberated on Saturdays from the centres of trade and industry in the metropolis, need for their relaxation just such a garden, and in just such a position as that on which the Council are engaged. At holiday times, the working-classes would crowd to such a place, if they could obtain admission for a small sum, and we would adduce the practice of the Zoological Society as the example for the Horticultural to follow. The Regent's Park Gardens are crowded on Mondays, and during the Easter and Whitsuntide holidays. The sixpenny fee brings a large account to the Society's exchequer, and the attractions at Kensington Gore would prove equally remunerative, if the Council would open a wide door for the entrance of the million. Instead of following the example of the Regent's Park closely, we would have the Horticultural Society go one step further, and admit the working-classes after a certain hour on Saturdays, as well as the whole

day on Mondays, for sixpence. Let fashion and wealth have their days of seclusion, but despise not the small sums that in the aggregate will make a noble figure in the annual balance sheet.

Stercus, incidentally referred to in our last issue, is the waste produced in the manufacture of wool. Having had many inquiries respecting it, we take this opportunity of affording our readers such information as we possess respecting its use and value. The sample we have been using to test its merits is of a dry, powdery, peaty nature, fine as dust when shaken asunder, and emitting an agreeable and decidedly ammoniacal odour. We have used it in mixing composts for geraniums, calceolarias, petunias, pansies, fuchsias, and others of the ordinary run of summer-flowering plants, and their vigour sufficiently attests to its suitability, both in a mechanical and chemical sense, to promote a free and healthy growth. For this purpose, we did not first allow the stercus to rot, preferring rather to see what could be done with it in its native state, and the only sign of the necessity of having it rotted for such purposes, was a little mildew on the surface of the soil in the pots during the first few days, while the early-potted plants were kept close, which disappeared entirely when air and sunshine were admitted amongst them, the plants being wholly unaffected. Another trial of it was made in planting roses that had been wintered in pots. A spadeful of stercus was chopped over with the loam in every hole, and a little pressed round the ball when in its place previous to filling in. The roses so planted are now remarkably fresh in their foliage, and are coming into bloom with every sign that they are doing well. On opening the soil near them, and examining the stercus, the new white root fibres from the roses are perceptible throughout its substance, just as similar roots will be generally found in a tuft of moss buried near the collar of a plant. It is, perhaps, the fibrous or felty character of the stercus that induces this rapid rooting, as we all know that the mechanical nature of a soil has as much to do with the free growth of roots as its chemical constituents. Another important use of this stercus is for mulching. We have already remarked that it will be an excellent top-dressing for strawberries, to preserve moisture about their roots in the hottest weather, and also to keep the fruit clean, the material being altogether different to dung, or other moist mulching materials, and, when dry, may be handled without soiling the fingers. The top surface of a mulch of stercus is like a clean felt, soft as velvet, and of a tawny brown colour, in no way offensive to any of the senses. We have also used it in top-dressing for vines, in the rows of newly-struck pompones, turned out for lifting hereafter, which will allow of their removal in complete balls, by the thorough hold of the stercus which their roots will make. From other quarters we have heard that the same material has been found of great service in the culture of hops, turnips, peas, beans, celery, and most other vegetable crops. To prepare it for mixing in composts for delicate subjects, we should advise its use in bulk to ridge cucumbers, and free-growing plants in frames, which require a large mass of moist nourishing materials about their roots. This would rot it sufficiently in one season to render it admirably adapted for pot-culture of greenhouse plants, and it would still possess sufficient nutriment for most purposes. Professor Henslow has reported most favourably of the results produced by its use on grass land, and, like well rotted dung, it may truthfully be de-

scribed as a universal manure. Our supply has been stacked in a corner much infested with woodlice, but not one of those gentry has been met with in the stercus, and we are informed that no insect will live in it. As to the proportion in which to use it, that of course depends on circumstances. We may, however, for the guidance of those who give it a trial, state that it may be used with safety in larger proportions than rotten dung, but it is sufficiently fertilizing to produce similar effects, if used in the same quantities, suitably of course to the requirements of the plants to which it is applied. That there may be no doubt as to its fertilizing powers, it may be sufficient to cite the analysis by Professor Way, who gives, nitrogen, 4.33 = ammonia, 5.25. As it is our custom to quote the prices of things recommended in these pages, as essential to complete the information, we here follow the rule by stating that the stercus with which we have experimented, was supplied by Messrs. Hayter, of the Imperial Works, Bromley-by-Bow, London, E.C. The price is £5 10*s.* per ton, and the smallest quantity sold is five cwt. There is an additional charge for bags, which are allowed for if returned. The bulk is considerably lighter than guano, and, therefore, carriage will not be a serious item to those in distant places.

NOTES OF THE MONTH.

Horticultural Society, May 1.—The anniversary meeting took place in the Lecture Theatre of the Museum of Science and Art, Kensington Gore. The Earl of Ducie in the chair. The secretary read the report of the Council, in which was succinctly narrated the progress of the society, in the establishment of the new gardens. The report stated that the society is waiting to find a collector who can be depended on, and who will be despatched to some rich and uninvestigated country for supplies of new plants. The society's finances have vastly improved, irrespective of the Kensington Gore account. In 1857-8, the sale of produce from the garden at Chiswick realized £142 18*s.* 3*d.*; in 1858-9, £190 10*s.*; in 1859-60, £292 13*s.* 8*d.* The flower and fruit committees have been reconstructed—Mr. Thomas Moore having been appointed secretary of the former, and Mr. Robert Hogg of the latter. The entire debt on the 31st of March, last year, was £10,752; it is now only £4,296. May 8.—Rev. L. V. Harcourt in the chair. Among the fruits exhibited were some well-kept Ribston-pippin apples, which had been wintered in glazed earthenware pans in a cellar. They came from J. Lamb, of Staffordshire. This mode of keeping fruit has frequently been recommended by us, and, for private growers, is, we believe, the best method known.

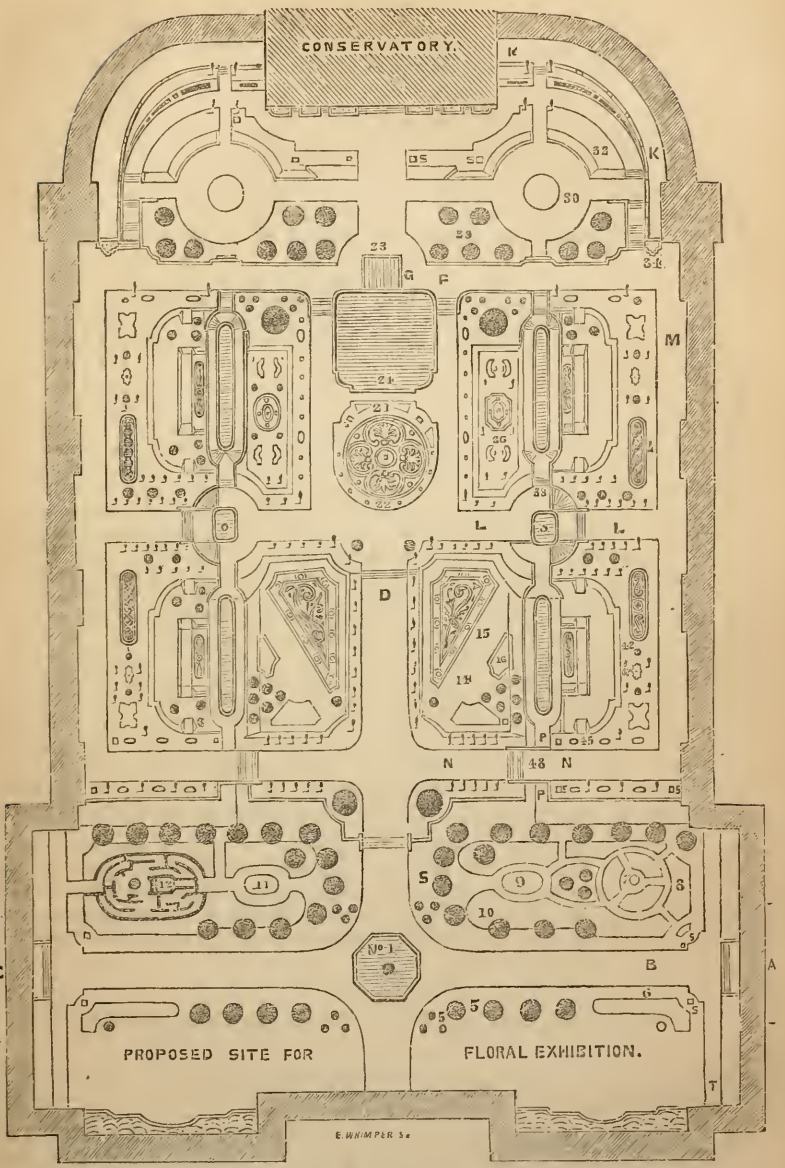
Royal Botanic, April 25.—This was the third spring meeting, and was well supplied with spring flowers. Among the objects of special note were the following:—Cinerarias: Duke of Cambridge, purple crimson; Constancy, white, with purplish tips and dark disk; Miss Marnock, Queen Victoria, and Solferino, from Mr. Turner. Cineraria: Martha, white tipped crimson, like many others already out, from Mr. Shrimpton, gardener to A. J. Doxat, of Putney. Cineraria: Masterpiece, white tipped rosy crimson; Beauty, white tipped rosy purple, from Messrs. Dobson; the last a really beautiful flower. A variegated leaved calceolaria, called Pendula, the leaves edged white, from Mr. Davidson, gardener to R. Bishop, Esq., Regent's Park. Messrs. Frazer showed some pretty roses. Messrs. Ivery, Azaleas Tricolor, Leviathan, and Carnation. Messrs. Cutbush, a dozen hyacinths, still in fine condition. There were also numerous contributions of auriculas, tropæolums, tulips, gloxinias, and fine foliaged stove plants.

Crystal Palace.—The dates fixed for the leading exhibitions are as follows:—National Rose Show, June 30; National Hollyhock Show, August 6; Chrysanthemum Show, November 15, 16, 17.

Brixton Hill Amateurs' and Gardeners' Society, May 2.—A meeting of this society was held for the purpose of inducing the resident gentry to give it their support, and also to make its objects known among the gardeners of Brixton, Streatham, Clapham, and Balham. The Rev. J. W. Watson presided at a table in front of which was a stage of exhibition plants. After a few introductory remarks by the chairman, Mr. Hibberd addressed the meeting on the advantages to be derived from association for the promotion of horticulture, and incidentally touched on various topics of interest in connection with horticultural practice. After Mr. Hibberd's address, Mr. Broome made a few remarks in his own genial spirit, and a vote of thanks, moved by the Rev. W. Raven, was passed to Mr. Hibberd for his attendance. The rev. chairman then read a paper on the advantages of floricultural societies, written by Mr. Monk, one of the committee. J. Hicks, Esq., addressed the meeting, complimenting the members on the tasteful display of plants; and lastly, F. H, Hogg, Esq., gave a very hearty promise of support. The plants on the table in front of the president's chair were contributed by Messrs. Livermore, Monk, Western, Merridue, Harper, Webb, Glover, and others. Among them was a superbly-grown Begonia Rex, some well-bloomed azaleas, Alba and Triomphans being especially good; Tropœolum Jarrattii, nicely trained on a flat trellis, and in even bloom over the surface; also a Boronia, a few stove ferns, some cinerarias of rather middling quality, a few well-ripened grapes, and a plant of Annie Salter chrysanthemum in a 60-pot, with two or three plump bloom buds, one nearly ready to expand. This and the grapes were from Mr. Glover.

Wellington Nursery, St. John's Wood.—Exhibition of Early Tulips.—From the middle of April to the end of May the show-garden at the nursery of Messrs. E. G. Henderson has presented such a spectacle as was never before seen in this country, and possibly never surpassed, even in Holland, in the show of early tulips. At the time of our visit they had just passed their prime, but the abundance, and richness, and well-planned variety of colours sufficed to prove that in this class of bedding-plants we have the very best of all subjects to precede the ordinary summer display. The bulbs are started early in September, under a light covering of mould, each lot, of course, correctly tallied, so that they make their first growth before the beds are cleared of their summer furniture, thus securing early growth for the bulbs, and continuing the bedding display to the end of the season. After flowering, they are allowed to remain but a short time in the ground, but are taken up in clumps, with some of the soil about their roots, and slowly dried off in a reserve ground with their roots covered, until the foliage is quite dead. This allows the planting-out of the summer stock early in June, and is a decided advance in the art of producing successional flowers. The show garden consists of a series of oblong beds, thirty-two in number. Each bed is seventy-five feet long, edged with box, the edging running across the alleys on the side next the road, but open at the other end for the entrance between the beds for practical operations. There is also a narrow bed next the public road for the trial of selected kinds. This bed measures over 300 feet. The thirty-two beds contain ten rows of tulips each, and the experimental bed four rows, ten tulips of a kind in succession all through. There are also seven or eight beds of offsets, which, when taken up, will be good bulbs for flowering. Altogether, there are not less than 4000 bulbs, and, as to the flowers, coming two, three, and four to a bulb, their number is past reckoning. The majority of the kinds are single, and planted apart from the double ones, the latter being nearest the entrance, for their more showy effect, though, we must confess, that with few exceptions in favour of the double tulips, the single ones give us much more satisfaction, both as to form

and colour, and general effect in grouping. It must be understood that among these there are no florists' varieties, the colour of the flower and the style of the plant determines its value, and there is literally nothing in the name, and but few amongst them have any historical interest. As to colours, they are perhaps more varied than in any other class of plants, and in most cases the colours are clear and decisive, and hence describable. Among the *whites* we noticed, as particularly suitable for beds and borders in private gardens, Pottebakker, Queen Victoria, Reine Blanche, Cour de France, feathered with cerise crimson; Standard Royal, striped cerise crimson; Grootmeester, flaked cerise crimson. *Yellow:* Pottebakker, Canary Bird, Golden Prince, and the species Persicum, which would make a magnificent bed of pure yellow, and show the typical form of all tulips; Thomas Moore, buff orange; Grand Duc, gold, crimson inner band. *Scarlet:* Vermilion Brilliant, a dazzling colour; Van Thol, Feu d'Anvers, Cramoisie fidele. *Crimson:* Gesneriana, crimson scarlet, two varieties, one with black and another with purple base, both grand and rather late; Couronne pourpre, blood crimson; Zongloed vivid, crimson; Royal Queen, pure crimson, green and yellow base. *Rose:* Monument, crimson rose, streaked white; Proserpine, rose tinted salmon. *Lilac:* Grisdelin aimable, bluish lilac; Cottage Maid, light rose or blush, white ground, a near approach to lilac; Archus, violet purple shading into lilac; Lac Obscur, violet crimson, peach lilac belt. Among the doubles the following are unexceptionably good:— *White:* Belle Alliance, feathered with violet crimson; La Candeur, clear white, good shape; Pourpre agreable, cream white, flaked violet purple; Couronne des Roses, cream white, flushed rose. *Yellow:* Admiral Kingsbergen, Arlequin, Gloria Mundi, feathered brown crimson; Grenadier, gold yellow, feathered brown crimson; Pæony, gold feathered brown crimson; Zwinglius, flaked brown crimson; Yellow rose, gold yellow, superb. *Scarlet:* Rex Rubrorum, very showy; Tournesol, scarlet and yellow. *Crimson:* Couronne pourpre; Imperator; Rubrorum, crimson scarlet; Rose eclatante; Velvet Gem, bronze crimson. *Dark:* Bonaparte, chocolate; Lord Wellington, purple lilac; Moliere, purple, large. Among the numerous plant-structures at this nursery a tiffany-house is now a conspicuous feature. It has a very neat appearance, and must have cost the merest trifle to erect, the principal framework being of deal laths, of not more than inch stuff, and 3 inches wide. It measures 47 feet by 24 feet, is 8 feet high to ridge, with central plot, borders, and path round, which ought to be sunk 6 inches, for we spoiled a good hat by coming in contact with a rafter, and we are not the tallest of Messrs. Henderson's customers. This house is formed wholly of tiffany. The door is a light frame, with one diagonal piece to brace it from top to bottom, and the sides, 4 feet high, hang loose, so that they may be drawn or rolled up to give air. If the entire roof were made to roll up to the ridge it would be an improvement, as the roses and evergreen plants, with which it is densely stocked, could enjoy the summer night dews, and occasionally a shower. Mr. Wood, the botanical supervisor of the establishment, informed us that the house was eminently serviceable as a preparatory place for plants about to be sent away. There was certainly a stronger daylight in it than in an ordinary house of the same shape and size shaded under the glass with tiffany, owing, probably, to the very small amount of woodwork used.



HORTICULTURAL SOCIETY.

REFERENCES TO THE DETAILED PLAN OF PROPOSED GEOMETRIC GARDEN AT SOUTH KENSINGTON.

THE architecture (the conservatory and corridors) is upon three levels, and the gardens likewise are so, exclusive of the several terraces. Although the respective sites of tall single trees and groups are indicated to render the composition of the

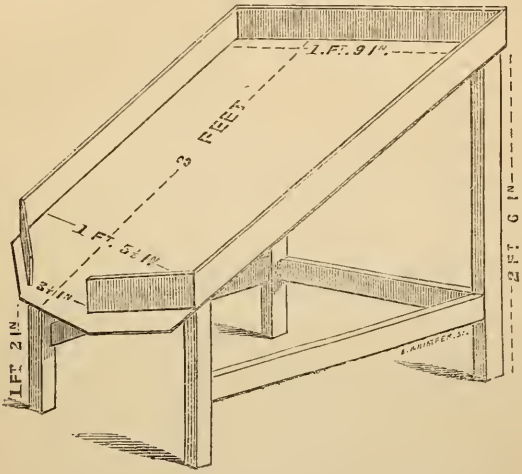
design complete, they cannot as yet be particularized till much consideration is given to a selection of plants already prepared for removal from the Society's gardens at Chiswick. Many seats and small tazze will be introduced about the gardens, which the small scale of the plan renders it difficult to show; these are omitted, and sites for principal sculptures only are given. The architecture is represented by *light shading;* walks, *white;* grass slopes of terraces and groups of shrubs, *dark shade.*

A, entrance from Exhibition Road; B, centre walk to ante-garden, leading to principal garden; 1, basin for nymphæa; 3, ferns and rock-plants; 5, tall trees, round and spiral; 6, belt of evergreen shrubs; 7, compartment for American plants, with grass alleys; 8, belt of evergreens, to seclude the American compartment; 9, pheasantry, fifty feet by thirty feet; 10, mass of shrubs; 11, aviary for song birds; 12, maze, formed by yew or hornbeam hedges, about a quarter of an acre; C, entrance from Prince Albert Road; D, centre walk to principal garden, on a higher level than ante-garden; 13, basins; 14, diagonal grass promenade (access by grass ramps); 15, large compartment for flowers and box embroidery; 16, mass of very low shrubs; 17, group of low trees; 18, shrubs of medium height; 19, avenue of spiral evergreen shrubs; 20, standard Portugal laurels on the verges, which latter are fifteen inches above the surfaces of compartments and promenades; E, branch walk to conservatory terraces; 21, circular compartment for flower-beds and box embroidery; 22, standard roses; 23, dwarf evergreen shrubs; 24, large basin, with cascade eighteen feet wide and eleven feet high; 25, compartment for flower-beds (without embroidery), accompanied by, 26, groups of flowering shrubs, etc.; 27, standard rhododendrons; F, lower or first terrace; G, second terrace; 28, memorial sculpture for Great Exhibition of 1851; 29, large trees; 30, band-houses (east and west) on circular paved platforms; H, third terrace; 31, kerbed beds for flowers between steps to conservatory arcade; 32, belt of shrubs; K, upper terrace, on a level with upper corridor; 33, steps down to band-house and lower terrace; 34, kerbed bed for tall flowers; 35, steps to the lowest level of the garden; 36, canals for running water supplied by cascades; 37, walks round canals (seats under retaining walls of east and west terraces); 38, basin with jets; 39, steps to lower terraces, opposite centres of middle corridor; L, centre cross-walk from east and west corridors; 40, avenue of standard roses, and beds for dwarfs; M, middle corridor walk; 41, frieze compartments for medium-sized flowers; 42, kerbed beds for tall flowers; 43, moulded kerbed beds, with large tazze for tall flowers; 44, group of low flowering shrubs; 45, spiral plants and simple kerbed beds for tall flowers, such as dahlias and hollyhocks; 46, panels of east and west corridor terraces, with lime-trees on their flanks; 47, glacis sloping towards canals, each embellished with embroidery only (the object of the glacis is that the running water of the canals, together with all other features across the garden, may be visible from the corridor or first terraces); N, south cross-walk of principal garden; 48, bridge and steps; 49, ramp, to descend to the level of canals; P, walk under the bridge, leading through the lower corridor of ante-garden (R); RT, walk from north to south lower corridor; S signifies sites for principal sculptures, whether for figures or large tazze. The upper terrace, K (above the band-house), would be favourable for statues of eminent botanists and horticulturists.

A DRENCHING BOARD FOR CLEANSING PLANTS.

In using tobacco liquor, Gishurst compound, and other vermin killers, there is usually a great waste, and what is perhaps worse than waste, the stuff gets into the soil and perhaps does as much harm to the plant at the root as the cleansing may have done good overhead. Dipping the plant head downwards cannot always be practised, and it is a slow process; the syringe often splashes the stuff where it is not wanted, and in any case is wasteful. We were lately shown a contrivance in wood, invented by a gentleman who has found Gishurst compound an effectual vermin killer, and it struck us that a figure of it would enable any of our readers either to construct it or get it constructed at a very small cost. As may be seen by the figure, it is merely a sloping board of half-inch deal, broader at the top than bottom, with sides five inches high turned at the front so as to catch the rim of a pot laid on the slope, the front being open for the flow of the waste into a pail. The board is mounted on legs, and the dimensions are given in the cut. By placing a pail under the front,

and laying the plant on its side, the foliage may be syringed without one drop of liquor getting to the roots, and what the pail contains may be used again and again. It might also be useful in tying out specimen plants, where considerable lateral growth may require regulating underneath, the pot being laid on its side resting against what we may call the lips of the top frame with the head of the plant entirely free. The cost of the one sketched was 7s., and it was made by Mr. Chitty, of Stamford Hill, for W. B. Stevens, Esq., 92, Dingwell Road, Croydon. That gentleman would probably allow any reader of the FLORAL WORLD to see it, if the cut does not explain its form sufficiently.



ON THE CULTURE OF THE PINK.

OF all the beauties of Flora, there are none among herbaceous plants to surpass, both for its sweetness and beauty, our old English friend the pink. A few remarks on the culture of this universal favourite may be of use to many readers of the FLORAL WORLD. The pink may be propagated and cultivated in every respect similarly to the carnation, pipings are best made at the end of May or early in June. By pipings I mean the grass shoots that grow round the foot of the stem; they may be taken off at blooming time, or after. The shoot should be cut up to a joint, taking off the lower leaves about half-an-inch from the base. The situation for propagating pinks and carnations may be a north border. Should there not be the convenience of a north border, they must be shaded from the hot sun. Prepare the beds the required size with rich turfy loam and a little dung, well mixed together, then sprinkle the top of the bed with silver sand and rake it evenly. The beds are then to be watered until they are very wet, after which to be left for a few hours to settle; the pipings or shoots are inserted not more than an inch apart and covered with hand-glasses, which are not to be disturbed for some days, only to water them if they require it; they may be moistened by watering outside the glass. As soon as they have struck root, which will be in about three weeks, the glasses may be taken off to let them enjoy the open air. In about a week or ten days after removing the glasses, plant them in beds six inches apart each way; treated in this way the plants will greatly strengthen, especially if struck early, so as to be well furnished with roots before the height of the summer is past; the best soil to plant them in is loam from rotten turves with a little dung. If obliged to use garden soil fork in a good dressing of dung before planting. When they send up their bloom stalks, remove all the buds but two or three from each stalk; by so doing the blooms will be finer for their fewness, and worth the trouble of dis-

budding. After the blooming is over, the grass will be ready to strike for the next year. If any be raised from seed, it should be sown in wide-mouthed pots or seed-pans in a cold frame; when large enough they may be planted out in beds the same way as the pipings or cuttings. The treatment should be the same throughout. As they bloom, every one that is single or semi-double, in fact all that are not as good or better than we now have, should be thrown away, as they spoil the seed of all better sorts if allowed to flower near them. The beds or soil for pinks to flower in should be at least a foot deep.

J. Howlett.

Abbey Gardens, Ramsey.

NEW BEDDING AND BORDER-FLOWERS.

DAHLIA, GOLDEN QUEEN.

We have long wanted a good yellow bedding dahlia, and here we have it, and one, too, that will not disappoint. The habit is dwarf; growth free; flowers gold-yellow, tolerably well formed, and displayed conspicuously. It need not be pegged down nor disbudded. Sent out by the raiser, Mr. Thomas Barnes, Danecroft Nurseries, Stowmarket. Price 2*s.* 6*d.* each.

VERBENA, LADY MIDDLETON.

This is a charming verbena for pot-culture and bedding; colour mauve; habit free, and the trusses well held up and amply coloured. It will form a beautiful contrast to Mrs. Holford, St. Margarets, or Cynthia. As an outside edge or next row to Cabin Boy, it would have an excellent effect, as it will also suit for shading off any of the good lilacs, to produce a soft blending of harmonious colours. Sent out by W. B. Jeffries, Ipswich. Price 5*s.* per plant.

VERBENA, KING OF VERBENAS.

This is altogether new in style of growth, and for pot-culture merits the special attention of exhibitors. The colour is rosy-purple, with white eye; pips well formed, and truss unusually large and compact. Very showy and fragrant. Sent out by G. Moore, Perry Barr Nurseries, near Birmingham. Price 5*s.* each.

VERBENA, CLARA.

This has been awarded a certificate by the Floral Committee of the Horticultural Society. Colour fleshy-pink, with green eye; pip large, and excellently formed. Very distinct. This and the last-named are among the many seedlings raised by Mr. Perry, of Castle Bromwich. Sent out by Mr. Moore. Price 5*s.*

CALCEOLARIA, YELLOW DEFIANCE.

A robust-habited, half-shrubby variety, which we think will stand the summer sun better than many of our standard varieties. The colour is pure yellow, trusses large, and flowers well shaped. Habit dwarf and free flowering. J. Buxton, Wandsworth Road, London, S.W. Price 5*s.*

PETUNIA, QUEEN.

This is in some senses an improved Shrubland rose, but is a great advance on that favourite variety. Colour rose-carmine; pure white eye; medium sized bloom, in the style of magnifica. The style of growth is excellent, and a most abundant bloomer. A great acquisition as a bedder, and not unworthy of pot-culture. Raised by Mr. Holland, gardener to R. W. Peake, Esq., and sent out by Messrs. Henderson, of St. John's Wood, London, N.W. Price 3*s.* 6*d.* each.

PYRETHRUM ATRO-SANGUINEUM.

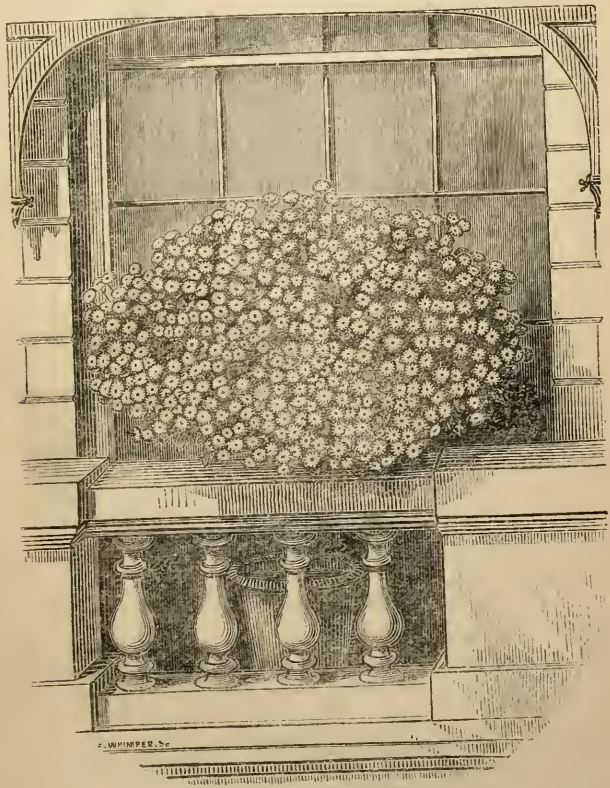
A valuable addition to our lists of hardy bedding and border plants, having the free-blooming, and free-growing habit of the well-known double feverfew, and at the same time many of the excellencies of a first class florists' flower. The plant grows to a height of sixteen inches in a generous soil, and produces a constant succession of crimson composite flowers, thoroughly double, and intensely coloured. Generally in the trade at 7*s.* 6*d.* each.

CABBAGE TIMBER.

Jersey is celebrated for its cabbages, and for their tall, tree-like character, a peculiarity partly owing to the custom of the peasantry in removing lower leaves, almost daily, to feed their cows. Thus a cabbage-garden in Jersey has somewhat the appearance of a little grove of palms, so that in walking betweeen them you literally walk under their foliage, which forms a crown at the top; and such stems are not unfre-

quently ten and twelve, and more, feet long, quite erect, and straight, and are made use of for a great variety of purposes. Planted closely, as living fences, they keep out fowls and small animals; sheds are thatched with them; they serve as stakes for kidney-beans, peas, etc., and the stouter ones as cross-spars for the purpose of upholding the thatch or roof of the smaller classes of farm buildings, cottages, etc., and if kept dry are said to last upwards of half a century. Our friend Mr. Samuel Curtis, a resident in the island, informs us that he has seen a stalk that measured sixteen feet in length, and that one that had grown up under the protection of a cider apple-tree had its spring shoots at the top occupied by a magpie's nest! The stems are now much used for making walking-sticks ("Jersey canes"). Stalks eleven feet high, and very good-looking and firm walking-canes, are deposited in the Kew Museum of Economic Botany.—*Hooker's Journal of Botany.*

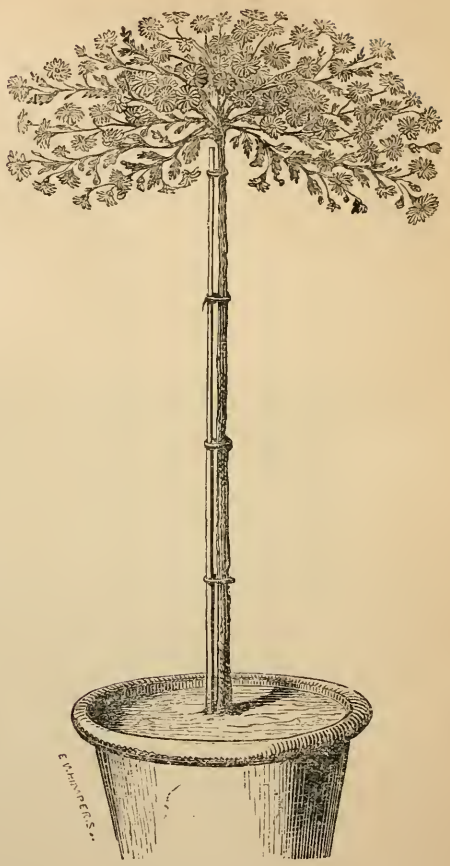
CHRYSANTHEMUM MODELS.



Mr. Hutt's Cedo Nulli.

Some of our friends have asked for a figure of a standard chrysanthemum, as a guide in training their plants. The one on the next page will be sufficient for the purpose, but is not to be considered as an example of a perfect standard, the head being poor and thin. It was sketched from one of our own plants, Mr. Astie, one of the very best anemone-flowered pompones, which had been grown from an April cutting. To make fine heads, November cuttings are necessary; they should be

taken straight up without stopping, and every bud should be removed as soon as sufficiently produced to be got at with the point of a small knife. In removing the side buds, be careful not to injure the bark of the stem, and let all the leaves remain. When sufficiently high, let three or four of the top buds remain and pinch out the leading bud, and from the side shoots thrown out proceed to form the head by successive stopping and tying out. The first figure is a portrait of Mr. Hutt's Cedo Nulli, which was exhibited at East London, and other shows last autumn, and reported on in our monthly notes. We have by us the dried plant of Bob which was shown with it. In its present dried state it measures three feet four inches; when shown it was about four feet over. Cedo Nulli was photographed after having appeared at some half-dozen exhibitions, and of course past its best. Our figure is a faithful copy of the photograph. This style of growth was introduced by our esteemed contributor Mr. Holland, in 1857, and it is the most effective style for the exhibition stage, or for the conservatory in a low position, as the plant presents its whole circumference of bloom to the eye at one time. Great credit is due to Mr. Hutt for the example he has set by his indefatigable exertions and great taste.



Standard, Mr. Astie.

THE AMATEUR FLORISTS' GUIDE.*

Mr. Slater, of Cheetham Hill, near Manchester, has done the State some service by the publication of the compact little book bearing the above title. Mr. Slater is an experienced cultivator and a good judge, and a not wearisome, but most agreeable and explicit writer. Above and beyond the plain and practical instructions on the culture of all the favourite florists' flowers, this work has an interest of another and a higher kind, arising out of Mr. Slater's occasional speculations as to the origin of varieties, hybridizing, and the relative values of certain strains As the verbena is just now an important candidate for attention, we subjoin Mr. Slater's essay and list of best varieties.

CULTURE OF THE VERBENA FOR BEDDING AND EXHIBITION.

The verbena was introduced from North America in 1774, and it is truly remarkable what great improvements have been made in it within the last few years. Whoever has seen in our botanical works, the first introductions, would be led to believe

* Manchester: John Heywood. London: Simpkin, Marshall, and Co.

that there had been a magic hand in order to lead to such results. The verbena has become a very popular flower for bedding out, and tends to add to the beauty of gardens. It blooms all the year, until the severe frosts of autumn, and displays its various beauties much longer than most of our bedding-out plants. Mr. Stanton, who has had considerable experience in the cultivation of the verbena, kindly gave the following article for publication to the author of this work. He writes as follows:—"If the desire is to grow them in pots for exhibition or decorative purposes, select those of the most shrubby habit. As soon as you obtain your plant, which I will suppose fairly rooted, you must pinch out the top, so as to leave three or four eyes; or, if it be in early spring, for instance, the end of February, or from that to March, take off the top, and strike it for your own plant. As soon as it is rooted, which will be in ten or fourteen days in a brisk heat, say in a hot-bed frame, pinch out the centre eye. This will induce side-shoots, which may be regulated as required. If any of these side-shoots grow too vigorous, and get out of limits, they will require checking, and continue to check the forwardest, until you get the plant both the form and size wished for. You may then permit the ends to go on and flower, and the plant will be covered with bloom, whereas, if, in the early stage of growth you allow your plants to flower, it spoils the rest of the plant; consequently you can do nothing with it until it has been cut back, and an entirely new growth made. The pots should be frequently examined as the plants progress, and, when filled with roots, they must be removed into larger sizes. Thus the growth is excited continuously so long as it is wished to increase the size, because, by pinching out the tops as fast as they appear, the growth is promoted, and the result is the whole of the plant expands its lovely flowers at one time, which, for showing in pots or greenhouse decoration, is highly desirable, and just what ought to be attended to. It will be necessary to discontinue stopping or pinching about five or six weeks before the plants are required to be in flower. I use rich, mellow, turfy loam, with pretty much of well-rotted horse or cow-dung, passed through a sieve, with a sufficiency of gritty sand to keep the whole porous. You may also add a little leaf-mould if plentiful. I grow my plants in a cold-frame or a similar place, until they are just beginning to come into flower, when they are placed where wanted. Should mildew attack them, dust with a little flowers of sulphur, which, if applied in time, will soon destroy it."

I will now give a few brief hints on the verbena as a bedding plant, for it must be admitted that it is pre-eminently adapted for that purpose, as it embraces an endless variety of beautiful and lively colours, and continuing as it does to enliven the flower garden with a profusion of bloom for months—in fact, until destroyed by frost. I strike in the commencement of August, for stock to stand the winter; and, therefore, get my plants well established, and the growth well matured, which is the most essential point gained for keeping them through the winter. I find that the best method of preserving them through the winter is to place them near the glass, on a shelf or other contrivance, and if furnished with a little heat so much the better. I prefer keeping them in this way to frames, where invariably great numbers are lost from damp and other contingencies. I think spring-struck plants preferable to autumn-struck ones, as they produce stronger and better plants and finer flowers. I take cuttings about the middle of March rather than earlier, for I deem strong cuttings very important when good strong plants are desired. I insert from twelve to twenty cuttings in a pot, according to the size of the pot, and use sand and peat in equal proportions, taking care to use plenty of drainage. They are then placed in a close brisk heat, where they will be well rooted in a fortnight. As soon as they are well rooted, pinch out the centre eye, as recommended for pot growing, and when they push again pot them off into the size pots known as forties, one in a pot, when they should be placed in a close frame for a few days; afterwards air may be given freely, but do not forget to get them good strong plants previous to turning out. I defer planting until the end of May, as I think that time quite early enough in this part of the country. They ought to be planted a foot apart, and about the same distance from the edge of the bed, the whole of the branches or shoots of the plants nearest the edge directed towards the edge, and the next row directed towards the first, and so on. So soon as any of the shoots reach their destination, pinch off the ends, and they will soon put forth side shoots, which must be trained where most wanted to fill up. There will be no difficulty in getting them to fill up their allotted space, and when they reach the

edges of the bed on either side they must be nipped off, and under no pretence be permitted to run over. When the bed is entirely filled or covered, let the shoots spread over one another; confine them within their proper limits, and they will soon present a mass of bloom the exact form of the bed, and as full of colour as a carpet. One foot apart will be found ample for covering quickly. Unless the shoots are frequently looked over and stopped in, they will encroach over the edges, and thus spoil the shape and outline of the bed or figure. The shoots that have done flowering, if any, may be thinned out. A good rich soil is indispensable for the production of fine bloom.

The following list contains the best sorts:—

Bedding out:—*Scarlet:* Defiance, Mrs. Woodruffe, Eclipse, Lord Raglan, Compte de Morella. *Crimson:* La Gondolier, St. Margaret. *Red:* Géant des Batailles, Admiral Dundas. *Blue Purple:* Purple King, Beranger, Hon. Miss Neville, Blue Bonnet. *Crimson Purple:* Leoline, Andre, Belinda. *Lilac:* Azecuna, Euphrosyne, Verrosa. *White:* Mrs. Holford, Snowflake, Mont Blanc, White Perfection. *Pink and Rose:* Rosy Gem, Brightonia, Annie Laurie, Earl Shaftesbury, Ben Bolt, Magnet. *Dark:* Lord Elgin, William Barnes, Novelty, Imperialis, Bacchus. *Fancy lighter colours, with deeper centres:* Jean d'Arc, Madame Plantamour, Julia de Courcelles, Mrs. D. Tysson. *Fancy Striped:* Striata Perfecta, Variegata.

List for Greenhouse and Exhibition:—*Scarlet:* Lord Clyde, Le Prophete, Lord Raglan. *Crimson:* Cyrus, Conspicua, Madame Gassier, Fidelio. *Red:* Ajax, Etoile du Nord, Rubens, Miss Emily Hanmer. *Cerise:* Bellona, Madam Large, Felix Roland. *Blue Purple:* Leviathan, Beranger, Annie Grey, Cabin Boy. *Crimson Purple:* Leoline, Eleanor, Dentonia, Belinda. *Lilac:* Azecuna, Eugenia, Lord Canning, Stradella. *Flesh:* Mrs. White. *White:* Mrs. Holford, Snowflake, Moonlight. *Pink and Rose:* Mrs. McLean, Annie Laurie, Mrs. Leslie. *Dark:* Lord Elgin, William Barnes, Novelty. *Fancy lighter colours, with deeper centres:* Madame Hoste, Madam Large, Felix Roland, Iole, Beauté des Amandiers. *Fancy Striped:* Striata Perfecta, Reine de Panaches, Mons. Prosper Viulquin.

BEDDERS FOR NEXT YEAR.

One of our correspondents is in a state of unhappiness about the price of bedding stock this season. Nobody thought it would be so cheap. Geraniums and verbenas are being almost given away, and he, alas! paid a high price in the depth of winter. Perhaps he has seen the bedding plants only in advertisements, and, comparing four shillings in winter, the price he paid, with the half-crown per dozen at which they are now offered, considers himself hardly done by. We have seen the "stuff" in more places than one packed away in thousands in very comfortable greenhouse temperatures, and not a moment lost, day or night, to make them as big as they can be got, up to the last moment of sending out orders. Our friend has had the opportunity since January of manufacturing any quantity quite as good, free of cost, as a set-off against the price he paid, for the cheap stuff is all from spring struck cuttings, and he ought to consider himself fortunate in having got possession of last autumn's plants to cut from for three months, and then turn out worth three times as much as the stuff that has been bedded in thousands of places the last three weeks. The winter was an awful one, and in thousands of private gardens the greater part of the plants from autumn cuttings perished. Of course the trade foresaw a great demand, and of course they cut, cut, cut, made a plant of every joint, kept the old plants under stove treatment, got abundance of soft growth, and now there are as many millions of bedding plants ready as the gardens can consume at from two to three shillings a dozen. Instead of being cheap, those are good prices. Little bits of succulent stuff are worth no more; and instead of turning them out ready to bloom right off, people must wait, and those who bed in the middle of June will be as well off in July as those who made a finish of it three weeks ago. We all know that verbenas struck in March and April bloom to perfection late in the season, so do petunias, and salvias, and ageratums, but people who are content to use spring cuttings, especially of geraniums, must also be content to wait for flowers till the season has half run out, and it was in the interest of such we advocated the plan of first taking off a lot of quick-flowering annuals, giving the bedders another month or six weeks to grow bushy and hard, then to be turned out and

bloom away to the end of the season. Why should we wait till the beginning of July for flowers when we might have abundance of colouring from the first week in April, without one break, till the approach of autumn frosts. Let our complaining friend answer as to which is best, cheap bedders put out in May, standing still till the end of June, and coming to rights a week or two afterwards, or a blaze of perennial candytuft, yellow and white alyssum, autumn-sown annuals in masses, and then the summer bedders to follow, and not a day's break in the beauty of the garden, except the day of the replanting. He bought long ago and is well off. People who buy now must pay the same price or wait for flowers.

Now, instead of resting from your labours when the beds are planted, prepare in your mind the style of planting for next season, get a few of all the best new kinds of bedders, turn them out to judge how far your soil and situation suits them, and any that you become enraptured with propagate from the end of June to the end of August, and be independent of the supplies of soft stuff that may look charming, fresh from the propagating pit, but will take three weeks in the ground to get into a growing humour. Even with those things that do well from spring cuttings some preparation must be made in autumn, the sorts determined, the stores got ready to start for shoots, and unless you are one season in advance you must either pay a good price or be content to wait for flowers. Make ready a piece of reserve ground, manure it well, and there turn out a few plants of whatever you mean to propagate. Instead of letting them bloom themselves away, be content to prove them as to colour and habit, then allow no more blooms and you will have cuttings from them, everyone of which will be worth half-a-dozen from the plants that are blooming as they please in beds and borders. Correspondents complain that their autumn-struck verbenas and geraniums break down in March; the reason is obvious, they take cuttings from plants exhausted by blooming, take them late, the winter sets in before they get well rooted, and to keep them costs more trouble than they are worth. To do verbenas to perfection, they ought not to make more than one or two trusses of bloom, to prove that they are true to their tallies; then remove the trusses as fast as they show and cut away all through July and August, and you will have such beds the next season as will be matter of astonishment. Treat geraniums the same, head them down continually, and strike every bit; the less flowers the more growth, and the growth will be of a kind best suited for propagation. The object of the flowers being to increase the plant by seed, if flowers are not allowed, the plant alters its course, so to speak, and is glad to increase its kind from buds, and it is the gardener's business to put it in the way of doing so.

Among geraniums, the Crystal Palace Scarlet is in immense demand this season, and the smallest plants of it, if true, are worth six shillings a dozen. It will drive Tom Thumb out of the field, for it makes a bed of the same character as to growth, but is many degrees brighter and better, and wherever Tom is used near it, whether mixed or separate, any one would see there was a difference between them. It is as much better than Tom, as Tom is better than Huntsman, and those other scarlets changing to dirty black which the last generation thought perfection. There is a whole batch of new bedding geraniums this season from the Wellington Nursery, and among them there are two of Mr. Beaton's that will give a new tone to the range of colouring. It is a bold march of Mr. Beaton to thrust the Nosegays into notice, and only by the masterly system of breeding he pursues, would the venture answer. We want among geraniums bright carmines, bright purple, and if we could have it, true mauve. Perhaps the nearest to true mauve would be the purple Nosegay, which has made such a striking figure in the sunk panels of the rosery at Sydenham, the last two seasons. Mixed with Model Nosegay, which runs up to the same height, and has a similar habit of growth, the result is perhaps the nearest approach to mauve possible with geraniums. Anyway, everyone of our readers should get Purple Nosegay, Model Nosegay, Picturatum, and Imperial Crimson, as several useful shades of purple colouring. Add to them, in the same style, the new "Nosegay Stella," which grows like Tom Thumb with large trusses of Tyrian purple. Of all the Nosegays bred by Mr. Beaton, Imperial Crimson and Stella are best, and White Nosegay the worst, for not one soil in fifty suits it. In rich soils, it runs away to stem and leaf, and becomes as rank as a cabbage; and Model Nosegay, though superb in colour, is a little less inclined the same way; but in poor soils you get your share of bloom where other kinds would look miserable. Imperial Crimson is good in any soil that

will grow geraniums at all, as hardy as Tom Thumb, as free in blooming, as dwarf in habit, and may go with "Stella" as the agents in a new and improved style of colouring. The Crystal Palace Purple for a centre, Model Nosegay outside it in poor soil, then Imperial Crimson, and outside row Stella, and you would have a rich bed, that would give a charming relief to calceolarias, or that most dazzling of all compounds in bedding, Flower of the Day and the variegated alyssum, plant and plant throughout. Among the true scarlets, Crystal Palace takes the lead, Attraction is not beaten in its way, Sheen Rival has no rival in its own peculiar orange scarlet, and Wellington .Hero supersedes Reidii in the conspicuousness of its white eye and substantial scarlet petals.

Among the new light-coloured geraniums the best for bedding is Madame Vaucher, zone-leaved, dwarf habit, free lateral growth, large trusses of pure white flowers, with pink anthers in the centre. Paul Labbé, a clear rosy-salmon, will not do for a bed, except perhaps in warm and elevated places, but, for greenhouse and conservatory, is most desirable. For a companion to it take Henry de Beaudot, true salmon, margined with white, and, with the old Kingsbury Pet for comparison, you will see your way clear how far to propagate either of them this season. People make such a fuss about scarlet flowers that some of the most refreshing tones of colour producible in geraniums are seen only at rare intervals, instead of being counted among "common things." What a charming thing is Amy Robsart, with its coral stems, ruby-tinted leaf, and blossoms, combining salmon and carmine in exquisite delicacy and richness. Is there anything to surpass Christina, with its full habit and large trusses of deep rosy pink, bold as Punch in its effect on the eye, yet softened from the garish red to a colour which gives a sense of repose?

Among the new variegates there are few that we can recommend for general purposes. However charming under glass, very few of them will stand the brunt of sun and rain without being the worse for it. Growers of the Golden Chain must, however, try Golden Vase as a decided improvement and a good second-row variety. Cloth of Gold has a new companion kind in Golden Fleece, the former having a crimson truss, and the latter a true scarlet, but no untrained eye would distinguish the foliage of the one from the other, though a connoisseur in geraniums would have no difficulty. Where Golden Chain does badly Cloth of Gold should be tried as a substitute, as easier to keep in winter, carrying its foliage well during trying weather, and, when bedded, giving the effect of Tom Thumb with golden leaves. In Golden Chain the leaf is polished, in this it is dull, as in all the true horseshoes, and this is a good mark of superior hardiness, which is the very quality we have been wanting among the yellow-leaved variegates. Oriana and Queen's Favourite are pretty new silver-leaved kinds, but quite unfit for beds on the ordinary mode of planting. The Queen's Favourite, however, will be everybody's favourite as the choicest silver minimum geranium for baskets, vases, and pots.

If the present season brought no other novelty than Holland's Petunia Queen, we could still say we were advancing. Farewell now to Shrubland Rose, its heyday is past and over, and it must soon sink into obscurity. There is no better habited bedding petunia in all the catalogues, and, like the plants turned out for exhibition by the same skilful hand, this petunia has a good foliage, which nine-tenths of them have not, and, in turning out from pots, you need not snap a single leaf or stem, for it is as pliable as Phaeton is brittle, and must stand first for good growing qualities. It is a tremendous bloomer, colour bright rose, flowers as large as Magnificans, with white throat, and the blooms held up boldly above the green groundwork of the leaves.

Here are the best of the cheap petunias for bedding:— *White:* Eliza Schæffer, white striped violet; Inimitable, flaked with purple; Queen of Whites, pure white; Souvenir, white flaked; Silver Shield, silvery white; Bride and White Beauty. *Lilacs:* Cœrulescens grandiflora, bluish-lilac ground, violet centre, very fine, but will not endure full exposure to the sun; General Canrobert, rosy-lilac with crimson veining; Hermione, blush with purple-lilac flakes, large; Little Nell, neat, free blooming, violet-lilac, the best of its colour for a small bed; Lilac Superb, rosy-lilac, the best of the same class for a large bed; Mademoiselle Anne Pierrot, rosy-lilac, large, a good bedder; Model, lilac-blush, streaked crimson, a good bedder on a cool soil, but rarely succeeds in hot places. *Rose:* The Queen, just described; La Reine, dark rose, crimson veins; Le Caid, purple-rose, striped white, always good; Madame de Pruines, deep rose, crimson veins, most beautiful. *Crimson:* Magna Coccinea makes a grand bed; Phaeton, dark velvet

crimson; Scarlet Eclipse (would be better named Crimson Eclipse), excellent; Empress of Crimsons, a large and substantial flower; Charles de Rosmini, scarlet-crimson; Countess of Ellesmere, crimson-rose, white throat, a gem; Dr. Andry, amaranth-crimson, striped white, makes a showy bed. *Dark:* Red Cross Banner, purple-crimson, one of the few double petunias that flower freely when turned out; Herzog Von Oporto, the colour of claret, with red streaks, opens its flowers well, and is not very particular as to soil or situation, but will drink tremendously; Gipsy King, mottled purple; Geant des Batailles, the best of the purples for certainty of character and general usefulness. All these, except the Queen, may be had now at four shillings a dozen, and the Queen is only three shillings and sixpence a plant; so take your choice, and what you intend to grow next year take cuttings of in July, and grow those cuttings into good plants in five-inch pots, and not allow a single flower on them, and from those plants take your cuttings in February, and next year's bedding-stock will have vigour of constitution, such as it is impossible to obtain by merely saving plants that have bloomed themselves out all the summer long.

Serve your seedlings in the same way. Bloom them to prove their goodness, then take cuttings of those that are worth keeping, and either save the whole stock to keep over winter, or grow a few cuttings into stools for propagation next spring. See the proof of this in tropæolums; you get, say, ten or twelve seeds of T. elegans for a shilling. Every one will come up and every one will show bloom in a sixty pot. Throw away those that are not so good as the parent, and keep all that are as good or better. In August tally the plants, strike a few of each, and when they are rooted you may throw the seedlings away. On the first of February put those stock plants into a comfortable dung bed, and cut as fast as they make joints, and next season you may have tropæolums equal to those at the Crystal Palace. If the original plants had been turned out in the first instance, they might have grown to the length and thickness of a cable, and with scarce a bloom upon them; the cutting and cutting again destroys the leaf vigour, and throws the plant into a blooming habit. In the same way, instead of saving your bedded plants of tropæolum, save a few cuttings only, but get them rooted *early*. Get verbenas on the same way. Be in time all through. Have a few reserve plants to cut from, and leave the beds alone, and instead of being compelled to content yourself with mites of plants that need a month's culture to bring them into bloom, you may bed them out with trusses ready to open on the first day in May that the wind quits the north quarter, and thus take the lead and keep it till the season has run out. Now, too, is the time to get up a stock of genuine spring flowers: consider at once how you will look from March to May next year. Take note of Aubrietia grandiflora, Iberis sempervirens, Alyssum saxatile (which few people have true), the variegated and the common Arabis, as the very best to move about in clumps to make up beds and ribbons of the gayest kind, and to be followed by the best annuals, autumn sown, till the geraniums, verbenas, petunias, cupheas, etc., etc., are ready to take their places in full bloom from the day of planting.

THE LILIES OF THE FIELD.

Once a year, on Whit-Tuesday, at St. James's Church, Mitre Square, Aldgate, in the ancient City of London, the rev. pastor preaches a sermon on flowers. On the 29th the good custom was followed as usual, and the young persons attending the service had each of them a charming bouquet A report of the sermon and a most interesting account of the gathering of the youthful congregation was published in the current issue of the *City Press*, a paper universally read and quoted for its wealth of antiquarian lore, its faithful representation of the interests of the City, and, what most concerns us, its frequent advocacy of the culture of trees and flowers in the City, a department in which Mr. Broome, of the Temple Gardens, frequently renders valuable assistance.

NOTES ON NEW PLANTS.

CLERODENDRON CRUENTUM.

Among the many greenhouse and stove species of clerodendron, the one exhibited by Mr. Veitch, under the above name, before the Floricultural Committee of the Horticultural Society, on the 12th of April, must take a high and a leading place. The clerodendrons are interesting shrubs, belonging to the natural order Verbenaceæ. There are about fifty known stove species, and nearly a dozen greenhouse species, of which one, C. fragrans, gives us a double flowering variety, which is highly esteemed for its autumn flowers. The general routine of management is to grow them in a mixture of yellow loam, turfy peat, dung from a melon-bed, and loose charred rubbish. They require complete rest in winter, and a steady heat to make their new spring growth, previous to which they should be pruned. C. cruentum bears a fine head of orange-red flowers, the red being intense, and the orange tone subordinate to it. The leaves are deep green, oblong, ten inches in length; the flower-stalks clothed with a short glandular pubescence, and the calyx of the flower consists of crimson lobes, which add to the intensity of the colouring of the flowers. There is some question at present if it be a true species, but for horticultural purposes it may be regarded as such, as it is quite distinct in character and unique in its beauty as a most desirable stove shrub. It was discovered by Mr. Thomas Lobb in tropical Asia.

ALSTRŒMERIA ARGENTO-VITTATA.

This showy variety of a favourite family of ornamental plants requires some care in its cultivation to keep it true. The flowers come in large clusters of scarlet and orange, intensely coloured and boldly displayed, and their effect is heightened by the charming foliage, every leaf having a broad silvery stripe down the centre on each side of the mid-rib, the margins of the leaves being a healthy green. Though the most prized among the alstrœmerias do best in deep loam in warm positions out of doors, this variegated variety is by no means hardy, but must have plenty of pot room and good drainage, a rich humid soil, and the temperature of a cool greenhouse.

Alstrœmeria argento-vittata.

It may be planted out in a conservatory border or in an orangery, and would probably do better under such management than in a pot, for none of this tribe are well adapted for pot culture, owing to the fascicled nature of their roots. The season of blooming is May and June. Price 5*s*.

TORENIA ASIATICA, VAR. PULCHERRIMA.

The Torenias are members of the important natural order of Figworts, or Scrophulariaceæ, and are among the most useful and easily managed of stove evergreens. There is no difficulty either in propagating or flowering them, as the small side shoots strike without a bell-glass if in a moist air, and the blooms come plentifully if the plants have liberal treatment. The best mixture for them is peat and rotted turves, equal parts, old cow-dung and gritty sand, one half-part each. The species most prized are Asiatica, purple; concolor, purple; hirsuta, white; and scabra, pale blue. The variety of T. A. pulcherrima is of a rich slaty purple, with deep blotches on the side petals, and an almost black throat. The lip is pure white, with purple edge, and the orange-coloured stamens contrast admirably against the purple of the back petal. Much as the species is prized, this variety very far excels it in the size and form of the flowers and the splendour of their colouring. It was raised from seed received from India by Messrs. Lee, of Hammersmith.

Torenia Asiatica, var. pulcherrima.

CANVAS AS A REPELLENT OF FROST.

Mr. Standish's communication about his tiffany-houses is very interesting. I can well understand that canvas has some peculiar and little understood power of keeping off frost, because old Abercromby tells us that fruit, that is, apples, have been perfectly preserved in a place much exposed to frost by being covered with a *linen cloth*, and also that woollen has not this effect. A. B.

PROFITABLE GARDENING.

CHAPTER XVI.—CULTIVATION OF CHERVIL.

The kitchen-garden is as much bewitched by modern fancies and prejudices as the flower-garden, and all sorts of valuable old English salads and table vegetables have taken their departure along with the favourite flowers of the days gone by. Where do you see a real musk rose, or a tuft of glittering lilac honesty, and where do you meet with tarragon and cardoons, and chicory and chervil? Fashion may be allowed to meddle with the fanciful notions of clipped yew and hornbeam, and put geraniums and cupheas where sweet Williams and cloves, and double daisies ought to be; but what right has fashion to kick out of our homely kitchen-gardens the once homely herbs that gave savoury flavours to roast venison, succulent coolness to home-baked bread and creamy butter, and the restorative bitter or refreshing acidity to the invalid's tea or cordial? Here is chervil, or at least here it should be, under its old English name of sweet cicely, for adding a spiciness to the flavour of soups, a crispiness and zest to salads, an aromatic odour to vinegar, and beauty to any dish that may need a green garnish. Chervil is really too good a thing to be thrust aside, and any French cook will tell you that without it one-half at least of the best dishes must be utterly spoiled. We want people to taste and try the things their grandfathers and grandmothers took delight in; the human palate has not changed in its physiology, and why should the favourite vegetables of the last century be less acceptable on the tables of this peculiarly gastronomic generation? Grow a row of chervil, and if you are a disciple of Abercrombie, you will not fail to add coriander-seed, which he always mentions with it as its proper companion. On chalky soils, where many good salads and potherbs give poor crops, chervil will pay well, for on chalk it is at home. But it will grow in almost any soil, and has a constitution and habit closely resembling parsley. The best place for it is the sunniest plot in the kitchen-garden, to be well drained, and, if possible, dressed with a sprinkling of lime-rubbish, chalk, or old mortar. It is a grand thing to get a pinch of really good seed, for, like parsley, it is contemptible if not thoroughly crumpled in the leaf, and in all respects hearty to look upon. Presently salads will be scarce, the hot weather will make radishes pungent and lettuces lanky, small salads will be in the rough leaf, and tough as hemp, if not used within a day or two of coming up. Endive is pretty to look at, but flavourless, and, therefore, sow curled chervil immediately after having read this, and beside it a row of real golden cress and Normandy cress. The golden cress is delicious, and may be cut at a dozen times before it will attempt to run to flower. To keep up the supply of chervil, sow again in August and be particular as to the culture of this sowing. Hand-pick and weed well, and, in doing so, remove every plant that is not thoroughly handsome in its character. From this batch take seed next season, and every future seasons sow again in August, and, by judiciously retaining the best habited plants, and removing those that come with thin, flat leaves, you will secure as good a sample of seed as any that can be had from the Continent, the French seed bearing the palm in the market. The next sowing should be in the first week of March, and the next again in June, and thus you have your supply for the year. Chervil may be used as an edging in the kitchen-garden, if needful, as parsley is sometimes used. If grown in a piece, it should be in drills not less than nine inches apart, very thinly sown and covered with the merest sprinkle of fine earth, say not more than a quarter of an inch deep. When in the rough leaf, thin the plants to six inches apart, and that will give room for them to grow vigorously, and meet along the row.

A new and excellent variety of

chervil has been lately introduced, which we can recommend with confidence as an excellent table-vegetable. It is called Chærophyllum bulbosum, or, in plain English, bulbous-rooted chervil. This produces a clean taproot the size of a small horn-carrot, which, when boiled and served with butter and pepper, forms an agreeable dish to accompany a chop or steak, the flavour being like a new potatoe, with a trace of sugary sweetness. If eaten raw it is perfectly wholesome, and has a nutty flavour, which will commend it to the majority of palates, though, like all other eatables, it may here and there be objected to. The culture of this valuable esculent is the same as for the carrot, with this exception, that it may remain in the ground all the winter, being one of the hardiest of kitchen crops in cultivation. As your rows of peas come off the ground, trench up a piece which has been well manured this spring. Dig deep, and leave the surface rough. In the last week of July sow in drills, nine inches apart, and dust the drills with hot lime as soon as the seed is covered. When the plants begin to rise, dust the drills again with lime or fine coal-ashes to keep slugs away, for they are very fond of the young seedlings, but will not care much about them after they have acquired a little strength. Next July take up the crop, and sow again. If stored in sand, the roots may be preserved six months. Those who have grown this new variety of chervil anticipate that it will soon become a common subject of culture for market.

CITRON GOURD MARMALADE.

The Rev. John Bramhall sent to a recent meeting of the Pomological Society, a pot of preserve of the citron gourd, along with the following copy of the recipe by which to make it:—"Pare the fruit, and let out the seed-pulp and weigh the remainder, cut it into convenient lengths and thicknesses. To every pound and a-quarter of fruit, apportion a lemon and a pound of the finest double-refined loaf sugar, and a pint and a-half of spring water. Pare the lemon *thin* into a basin and squeeze the juice to the rind, and let it stand to get out the flavour.

"Put the *fruit* and *most* of the water into the preserving-pan, and stir it till it is *soft* and *transparent*, which will take from one to four or even five hours, adding the remainder of the water, if *needed*, from time to time. When soft add the sugar and remove the scum. When the syrup is well formed, strain the lemon juice to it; and by the time this is well incorporated the preserve will be done. It ought to be transparent, of a fine apple-green colour and citron taste."—The sample of preserve submitted to the Pomological Society, was very fine in colour, transparent rich, and the cut portions of the rind had the flavour and texture of preserved citron. It was considered worthy of trial; but further knowledge of it was desired to determine how much of its excellence depended upon the gourd itself, and how much upon the *lemon* and *sugar* which were added to it.

LILLYPUT DAHLIAS.

These are an entirely new race of dahlias, not adapted for bedding or exhibition, yet unique in character and worthy of general adoption in garden decoration. Their flowers are small, globular, and very neatly formed, resembling in most instances those of the pompone chrysanthemum. They are produced in such profusion that the plants appear literally covered with them, and the succession is continuous till cut down by frost. As to habit, these Lillyputians are open to some objection. They are tall and sometimes straggling, a fault to be overcome by carefully staking and tying in. For shrubberies, there is no section of dahlias so thoroughly suitable, and for bouquets, vases, and jardinieries, they are unequalled,

their colours and outlines being almost without equal during their season. There are about fifty varieties, out of which the following six represent the leading shades of colour:—Cupid, white, tipped purple, crimson; Glowworm, scarlet, shading into yellow; Little Hermann, pale cerise tipped white; Little Mistress, dark, brownish violet; Goldfinch, gold yellow tipped scarlet; Prince of Lillyput, dark brown, shading to maroon, blotched white; Rosette, pale rose; Little Prince, carmine, rose edging, white margin; Lillyput Bouquet, purplish rose on white ground; Colibri, nankeen; Amoretta, pale umber; Honeycomb, maroon. The prices range from one to ten shillings each, and all the leading houses have them.

BOUGAINVILLÆA SPECTABILIS.

The *Chronicle* contains some interesting particulars respecting the blooming of this gorgeous American climber. It was introduced seven years since from South Brazil, and has never till now justified the original description of it, for it has stubbornly refused to bloom. At last a wooden box, filled with its blossoms, reached Dr. Lindley, from Mr. Daniels, gardener, at Swyncombe House, Henley-on-Thames. "Imagine," says the doctor, "piles of great veiny scales, like those of the female hop, dyed with the richest tints of what is now-a-days called mauve: a tint in which crimson, and violet, and purple are exquisitely blended. Assuredly there is nothing in the whole vegetable kingdom more gorgeous than this." Mr. Daniels says no one that has a stove ought to be without it, and nothing grows and blooms more fully when under proper management. His plant was grown for one year in a twelve-inch pot, then turned out into a square brick pit, three feet by three, into a mixture of leaf mould and loam, with a good proportion of broken bricks and charcoal. The plant is now trained to the roof of a span house, and covers 200 square feet; if allowed it would cover 1000 feet. The secret of success is in the temperature. Mr. Daniel's plant began to show bloom after the brickwork had been heated to 140°, the roots themselves being at 100°. It will, however, stand a load of air temperature. Mr. Daniel says his house did not average more than 50° last winter, and in October last the plant endured several degrees of frost. Mr. Milroy says he flowers it with great heat at the roots, and then cools it down to 50° with a dry air for the winter. It has also been flowered at Osmaston Manor, the seat of T. Wright, Esq., under the management of Mr. Lamb the gardener. It requires plenty of room, does best on a brick wall, plenty of light, a dry air, rather confined at the roots, and, to flower it, a bottom heat of from 90° to 100°.

REMINDERS FOR JUNE.

Auriculas will want occasional fumigating, keep them in a cool place, on a hard bottom and pour water amongst them on the ground surface to cause a moist air. An old light may be rested on pots over them during storms, otherwise let them have the benefit of all showers.

Asters may now be turned out in the places where they are to bloom; make the ground rich, and choose showery weather. If the place is infested with snails, plant a few small lettuces behind the back row, which may be pulled up as soon as the asters are well rooted. Those to flower in pots to have a good shift and cold frame.

Azaleas not yet done growing, keep moist and shaded, but beware not to push the growth too far, as unless they are well ripened and rested there will be few flower-buds formed. There is not much danger of that, however, just yet, except with those forced early. Plants that are leggy are likely to break along the stems if laid on their sides, which will improve them.

Cinerarias.—Take cuttings of those that have been earthed up. Sow seed in a cold frame. Get ready the compost for next season's plants.

Dahlias.—Plant at once, if not already done. Stake at the same time and shade

from sun, and sprinkle with water frequently till rooted.

Fruit.—Search among raspberries every morning for snails, which take shelter on the stakes and among the side shoots. If large fruit are required, thin the blooms at once, and give liquid manure. Stone-fruits look well this season and no blight yet, but it may come suddenly and must be prepared for. Disbud and nail in. Pot trees to have plenty of water, and, if weakly in their new growth, pretty strong doses of liquid manure at intervals of at least a week each. Pinch, regulate, and where fruit shows thick thin it out.

Geraniums in beds, avoid watering if possible, after the first dose to settle the earth about them. They will root deeper and do better in the end. Pot plants want plenty of water, and if leggy pinch out the tops and give a shift, and plenty of side shoots and blooms will follow to the end of the season.

Hollyhocks.—Stake at once, and tie in as soon as the stems are tall enough, and frequently look at the ties to see they do not cut their swelling stems. Heavy manuring in the first instance is preferable to watering with liquid manure, but in poor soils liquid manure may be used abundantly.

Kitchen Garden.—Sow a succession of saladings, choose shady spots for lettuce. Plant out celery, tomatoes, hardy melons, ridge cucumbers. Sow also succession peas, beans, kidney beans, cauliflower, and prickly spinach, which does not run so soon as the round at this time of year. Stir the earth between all advancing crops, and there will be more growth and less need of watering.

Pansies.—Take cuttings of the best, look over seedlings and root out and destroy all inferior ones. Sow again for autumn bloom.

Pelargoniums.—Shade the house, plenty of water, stake and tie as needful, keep a sharp eye after vermin. Plants out of bloom, keep cool and dry out of doors.

Tulips.—These are very late this season, keep up the shading till the flowers are over, then remove it, and let them have the benefit of rains and dews.

Vines will be visited with red spider wherever the air is dry. Give plenty of ventilation, and plenty of water overhead. Keep up the heat of Muscats.

TO CORRESPONDENTS.

FIAT JUSTITIA—TO THE EDITOR OF THE FLORAL WORLD.—"In the April number of the FLORAL WORLD, which only reached me a few days since, I find, to my intense astonishment, an article headed the 'Cultivation of Annual Flowers,' purporting to be extracted from Messrs. Sutton's 'Spring Catalogue and Amateurs' Guide, for 1860.' Permit me to inform you, in the words of the Latin poet, *Hosego versiculas feci, tulit alter honores;* or, in plain English, you have given to Messrs. Sutton the credit which is due to another. The article in question is a literal abstract, in more senses than one, from the 'Gardening Book of Annuals,' published by me a few years since, and does not contain a paragraph, nor, as far as I can detect, a syllable not occurring in my work, though there are sundry omissions apparently for the purpose of compression. Whether this slight condensation in Messrs. Sutton's work or your own, is of little or no moment. I will not hesitate to say that, in my opinion, no more scandalous act of literary piracy was ever perpetrated. The adoption by these gentlemen, as their own, of whole chapters written by another, would in itself be a most unwarrantable act, but that these extracts should be made from a work written by one pursuing the same avocation as themselves, stamps the appropriation as one of the highest indecency. To what extent Messrs. Sutton have laid my little work under contribution, I know not, but assuming that their extracts are limited to those you have quoted, I am fully justified in pointing out the injury you have unwittingly done me. I am, I assure you, very far from entertaining an exaggerated estimate of the value either of the extracts in question, or of anything else I have written; but, since you have, in noticing the 'Reading Catalogue' in your February number, been pleased to speak of those instructions as so well done, that you intended to transfer them to your own pages, you will feel no surprise that I should put in my claim for whatever merit they may possess. I shall be obliged by your inserting this in your next number, and I make this request with the more confidence, that I am persuaded your extracts were made in full reliance on Messrs. Sutton's good faith; indeed, it appears to me that as you had previously intimated your intention of quoting the passages in question, you have equally well-founded grounds of complaint against them with myself.—W. THOMPSON, *Tavern Street, Ipswich.* [Yes! of course we have. The article appears in the catalogue as original, and as we never publish as original, but with proper acknowledgment, whatever is extracted from other works, we put faith in the catalogue and cut out the article as the best on the subject we had ever met with. Messrs. Sutton acknowledge *other* extracts, why did they not acknowledge this? For the sake of truth and justice, we are most glad Mr. Thompson happened to light upon it, that he may have the credit due to him for his carefully written and practical essay.]

LAWION BLACKBERRY.—*N. P., Blackburn.*—"I have sown seed of this new blackberry in the open ground, two inches deep, and, to my disappointment, none have come up after five weeks' waiting. Can I do anything to hasten them?" No. Five weeks to the 15th of May gives the date of sowing the second week in April, which was six weeks too soon. Take a lesson from a neglected plot of raspberries. The berries that fall sow their pips, and the ground soon bristles with seedling plants. The season when the fruit is ripe is the time to sow the

seed, and this blackberry, though a blackberry, is a raspberry in habit. Wait patiently, don't disturb the ground, and in a few weeks you will have young plants. It is a strong grower, wants a deep rich soil, and plenty of room for fruiting.

Liquid Manure for Roses.—*Amateur.*—House sewage is certainly the best liquid manure for roses, and it is usually sufficiently diluted as obtained. It may be used once a-week from this time to the end of August, after which, we think it best not to stimulate them. Use it a little stronger for a fortnight as soon as the first blooms are over. Guano 10lb., soot 6 quarts, water 100 gallons—this is a capital mixture for roses.

Tiffany-houses.—*A. B.*—The best plan for amateurs who intend to grow pot fruits and roses in these houses will be to have the tiffany on rollers, so that the whole roof can be rolled up in lengths by pulleys to the ridge, and the sides the same to the plates. During winter a second thickness of tiffany, nailed up inside, the thickness of the rafters from that outside, would enclose a stratum of air, and form a non-conducting roof, very proof against frost. Such we understand to be Mr. Standish's method. In our remarks on mineralizing tiffany, an error occurred; it should be 1 lb. of blue vitriol to twenty *quarts* of water.

Tomatoes.—*A. B.*—These may be grown till they show flower in five-inch pots; larger pots would be waste of room.

Pea Hurdles.—*S. W.* says he finds common wire netting, supported with iron rods or stout stakes, a very cheap and orderly mode of training peas, and the netting can be rolled up and packed away in a small compass when done with for the season.

Stove Plants.—*Rex.*—The nettle-like leaf, with light green ground and rich chocolate centre, breaking into spots towards the margin, which is regularly notched, is Plectranthus picturatus. The companion leaf, with less chocolate, and a margin more irregularly and deep notched, is a variety, whether from seed or a sport we do not know. The species is very beautiful as a foliage plant, but the variety is not worth pot room, so far as respects its pretensions to beauty. The best winter Achimine is splendens, a dazzling scarlet. The plant used in winter as a substitute for orange blossom is Gardenia citriodora, which no amateur collector should be without. The smallest bits of plants bloom most profusely, and the flowers are delightfully scented.

Spot in Pelargoniums.—*Constant Reader* built a house last year, and stocked it with pelargoniums. He was away for a time this spring, and, on returning, finds that his plants have all perished from spot, and asks if we think the gardener was to blame. We are always cautious not to bring gardeners into disrepute, and would rather defend than accuse them, because even a word inadvertently uttered here would do a gardener serious injury, when, perhaps, he might, if judged on all the facts, be found free from blame. In this case we cannot help saying that the loss of a houseful of pelargoniums reflects most discreditably on the person in whose charge they were left, because, at the first breaking out of the disease, he should have detected it and taken immediate steps to save the stock. Spot is a physiological mystery, which we do not undertake to solve; but our private opinion is, that it originates at the root through want of drainage, a sour state of the soil, too much water, sudden cooling of the whole plant by moisture and draughts, want of ventilation, too rapid forcing, too much manure, too copious a supply of manure water, or other circumstances of a similar nature, acting separately or conjointly to derange the functions of the sap vessels. This much in favour of the gardener to whom we have imputed blame—when the spot once gets hold of a collection, there are ten chances in favour of the death of the whole lot to one in favour of their recovery. Now, what shall we do when it does appear? First of all remove the plant or plants affected and either burn them root and branch, or give them careful nursing in a structure as far removed as possible from the geranium-house. There cut them down, and make them *rest* completely, and they will probably throw up a new growth free from spot, and once more acquire health and vigour. In the meantime get cuttings of all the sorts most prized from healthy stock, and set them going, to take the place of the plants in the house, in case the disease should prove universal amongst them. To prevent its doing so, while the cuttings are making root, keep the house well aired, and as dry as possible, not, however, to kill the plants in the drought of sun-heat, but sufficiently dry to check succulent growth, and cause the ripening of the wood they have already made. In letting plants down from a state of high growth to one of compulsory rest needs as much caution as letting down a racehorse from his high training, and the leading element in the affair is to withdraw not too suddenly the chief source of growth, viz., moisture.

Geraniums Turning Yellow.—*M., Thorpe Abbey.*—This correspondent complains that her geraniums turn yellow, and drop their leaves, a malady arising from causes the very opposite of those which produce spot. Plants lose their foliage when going to rest according to the course of Nature, or when unable to hold them through want of nourishment. *M's* geraniums are either in exhausted soil, or have too little water, or are burnt at the roots through the action of the sun on the pots for want of shading. If turned out at once into beds they would soon recover; if required in pots all the season, they should have a shift into *fresh* soil. By fresh we mean soil that has not been used before for any kind of pot plants, and the best for the purpose would be loam from a stack of old turf.

Lawn Mowers.—*W. P., Pontefract.*—Though there are so many, each professing to be the best, they really do not differ much either in principle or construction. Where there is any breadth of grass it is positive waste of time to use the scythe. A machine will soon pay its cost in the saving of time; it will mow the grass better; it can be used when the grass is dry, and by a person not accustomed to use the scythe. The cheapest is Boyd's, and that has been proved to be thoroughly effectual, though with less expensive gear than some of the fancy kinds. Write to Samuelson, Cannon Street, or Deane and Co., London Bridge, for prices.

Local Shows.—Rules and lists of prizes, Maidstone Horticultural, received; also rules and schedules of Swadlincote Floral Society. Wednesday, the 8th of August is the date of the exhibition. In the last-named there are extra prizes for border tiles, flower pots, and garden labels.

Various.—*E.D.*—Kindly meant, no doubt, but not the less in error. It's very odd—no real name—different initials every time; queries all attended to with a care they would not have in other quarters, and then a fizzing of gunpowder. Surely your liver is out of order. *N. S.*—The specimen was past recognition when it reached us. Thelygonum Cynocrambe, or Dog's Cabbage, is a native of the South of Europe, and is usually regarded as a hardy annual. *T. A., Muswell Hill.*—The subject shall have early attention. *M. E. B.*—Very pretty, but not practical enough for our pages.

THE

FLORAL WORLD

AND

GARDEN GUIDE.

JULY, 1860.

FLORICULTURAL SOCIETIES are subject to the same mishaps that befall other associations for mutual improvement, and it is not always that a scrupulous secretary or trusty treasurer, and a compact committee, can insure success to the undertaking. Circumstances will arise to try the temper and thwart the working of the best-considered plans, and the only consolation will sometimes be that, though we could not insure success, we endeavoured to deserve it. To place a society on the surest foundation, let there be every possible care bestowed in the preparation of the rules. It is not necessary they should be lengthy or verbose, but they ought to provide for all contingencies which ordinary foresight is capable of predicting, and be framed in a thoroughly liberal spirit, so that all classes may find themselves cared for, from the noble or reverend patron to the humblest cottager. We would, in the first place, warn the promoters of such societies against attempting to do too much: a little, well done, gives more satisfaction than much attempted and but half accomplished. This caution is suggested to us by a perusal of some copies of rules which lie before us, but we forbear to specify them by name, at this moment, because we would not appear to cast discredit on them by invidious criticism. For instance, one society is connected by name most distinctly with a certain place, but invites persons to join without any reference to the place of their habitation. Now, a local society open to all the world, is a local society in name only, and we cannot conceive a man coming from Land's End to join a society in the neighbourhood of London, unless he hopes to gain some special personal advantage thereby. We believe in localization, and would rather see the inhabitants of a single parish bound together in good neighbourship than a gathering from all corners of the kingdom, unless the object were of such a decidedly general character as to warrant it. We advise the founders of new societies to consider this point with attention, and, unless there are special reasons for

opening a wide door of entrance, let the membership be strictly local, so that those who associate and compete shall have a common interest in the place which the society represents. Cosmopolitan notions are all very well in their proper place, but in hasty attempts to embrace all mankind we may happen to forget the people who live next door. The societies to which these remarks especially apply will, we trust, feel assured that they are offered in a kindly spirit, from the fact that we abstain from mentioning names, and those to whom they do not apply will perhaps be glad to find that we are strongly in favour of strict localization, as essential to success and the mutual enjoyment of association.

In the management of exhibitions we have already expressed strong objections to the giving of money prizes to any except those who pursue gardening as a means of subsistence. The schedule of the National Rose Show of the present year strikingly exemplifies our meaning, though it does not belong to the class of societies to which we are now referring. We remember when the Rev. S. R. Hole handed over the gold and silver cups at the first exhibition at St. James's Hall, the thought passed through our minds, "What do nurserymen care for such things?" Growing and showing are plain matters of business to such men as Turner, Paul, Francis, Cranston, Cant, Wood, and others. How unsatisfactory to give them cups, but how appropriate to see the amateurs (Mr. Hole among the number) receive such tokens of the approbation of the judges and the excellence of the flowers they produced. In the present year's schedule the nurserymen's class consists of money prizes only, and the amateurs' class of cups only, which is a right and proper distinction between the pursuit of trade and the pursuit of pleasure. In a local gathering a ten-guinea cup will always be a formidable subject of competition; but garden implements, new and rare plants, books on horticulture, sideboard ornaments, botanical collections,—such things as these would be more sought after than money, would be more useful, and would remain in the possession of the successful candidates as trophies of conquest, and mementoes of happy times. A good lawn-mower, a garden-seat, or an engine for a first prize; some of the works of Hooker, Lindley, or Paxton, for second and third prizes; a few orchids, or rare conifers, or new florists' flowers, or even a garden syringe, for fourth prizes, and for extra prizes a set of observatory bee-hives, or a collection of the best examples that can be had of flower models in wax. Such things would increase the attractions of the show itself, vastly more than mere money, and medals, and cups, and we doubt not the gardeners would, in most cases, vote for them in preference. Let the subject be broached in committee, and see which way the wind blows. As for the large class of amateurs, ranging from people of fortune to industrious mechanics, through the whole rank and file of English gentlemen, there is always something in the way of a horticultural implement or ornament they would like to compete for; makers of such things, as well as importers of new plants, and raisers of new varieties, would also become exhibitors, and do much towards the furnishing of marquees and lawns, on the speculation of getting cash for their goods, as well as the advertisement of their names in the locality. Judges have responsible tasks, and it is of the utmost importance that committees should exercise great care in appointing them. Judge and exhibitor are sometimes rolled into one; but wherever that happens, the society can only continue by being an

instrument for jobbery; the probability is that it must soon come to ruin. Select men who understand all the details of exhibiting, as well as growing the several subjects. When the judges have done their duty, let the disappointed exhibitors profit by their loss in noting how the productions are placed. An amateur will gain more instruction by a careful comparison of his own stands with those above and below them than from any amount of book-reading on the subject. If he cannot see the superiority of the stand before his—which it may be hard to see at the time—let him civilly ask the judges to explain, and if they are practical men they will do so, and doubtless succeed in convincing him. To the members at large we offer one last word—*don't quarrel*, or you may soon have to say with sorrow, "Behold how great a matter a little fire kindleth." The most useful members of a society are not those who are most petulant, but those who are most forbearing. Life all through is a system of give and take: he is a churl who will not accept a favour; he is doubly a churl who will not confer one.

The winter commenced in the second week of October, 1859, with 17° of frost, which froze the flowers of chrysanthemums, and put an end very abruptly to the entire display in the flower-garden. It continued with unexampled severity, deluges of rain alternating with Arctic frosts, and may be said to have fairly ended on the 21st of June, 1860, when the barometer began to push from 29·70° towards the safer standard of 30° with a north-west wind, the ground saturated with sixteen hours' rain on the previous day, and the thermometer inclined towards 70°. The "merry month of May" was especially merry from the 18th to the 27th, when there was a season of sunshine, and the thermometer indicated for the period about 1° above the average; but it was like one of those wandering glimpses of summer weather that occasionally visit us at Christmas: the sun retired behind the rain-cloud, the earth was deluged again, the thermometer fell awfully low, and on the 21st of June the water gods poured out their vengeance on the chilled and saturated ground, and then made way for the entrance of the summer. As to what sort of season is before us, no one can say; but this is certain, that, let the elements be ever so propitious, it must take some time ere the earth can attain to a summer temperature, and, with the wind at N.W., as it is while we write, cold nights will considerably lessen the effects of the sun-heat imparted during the day. There has not been, in the memory of any gardener living, such a season of trial, such a season of protracted cold and wet, of frequent change, of promise, and of disappointment. The weather in the middle of May turned the heads of the young gardeners, and in the haste of inconsiderate enthusiasm, geraniums, lantanas, verbenas, petunias, salvias, all sorts of things that had been well nursed under glass, were turned out, not to grow larger, but to grow smaller, lose their leaves, cast off their swelling trusses, change their colour for the worse, and altogether lose what it will require at least three weeks of the most genial weather to recover. Barometers and thermometers have no feelings; they never deceive us. The mean temperature of May during the nineteen years ending 1859 was 52·8°, and the mean temperature during June for the same period was 59·5°. The mean temperature during May, 1860, was 49·2°, equal to 3·6° below the average. This at first sight seems bearable, but in truth the

warm weather came in a lump, and the cold in a lump after the warm, and at the most critical season for gardening. Take it in detail, week by week, and see by the figures how the "bedding system," like our other free institutions, has been "put upon its trial." From the 1st to the 5th of May, the temperature, according to averages, should have given a mean of 50·5°. The actual mean was 47·1°. Then, to the 10th of May, the mean should have been 58·5°; the actual mean was 50°. From the 10th to the 17th the mean was ¾ above the average; thence to the 24th, again ¾ above the average, and people said, "Summer has come." The whole nursery trade was alive with orders, and thousands of bedding-plants were consigned to what proved almost an ice-well. From the 24th to the 31st, the temperature was 3¾ *below* the average, with one inch of rain in the week. From this time the weather went from bad to worse, and the tender things committed to the ground between the 18th and 24th were compelled to endure the severities of a November drizzle. There was a fair promise of improvement on the 12th of June in London, the barometer rose, the sun shone through the haze, and hope revived; but the barometer fell again a quarter of an inch, the floodgates of heaven were opened once more, and not till the 21st was there any indication of approaching settled weather.

In the week ending June 7th, the temperature was 4·75 below the average, with one inch and a-half of rain. The next week was worse still —7° below the average, with nearly one inch of rain. Then the 15th was cold and wet, the 16th showed signs of improvement, the 17th was a deluge, with one inch and a-half of rain, and on the 18th the barometer began to rise, with the wind at N.E., and a promise of fine, but severely cold weather. Thus, from about the 28th of May to the 17th of June, the accumulated deficiencies of heat amounted to sixteen degrees! In the winter months this would be of little consequence, but at such a season a deficiency of heat, with extra moisture, is most disastrous to the flower-garden, and our readers have before them sufficient proofs of its effect without the necessity of our enforcing the fact upon them. From the 27th of May to the 16th of June, the highest reading of the thermometer was 65°. On the 17th, it rose to 69° in the shade, on a north wall at Stoke Newington, only to sink at nightfall to a March minimum, with the soil soddened like a sponge. Summer-flowering plants will bear low atmospheric temperatures without injury, if they are warm at the roots, but if the roots are chilled, they either damp off and disappear, or lose their leaves, cease to produce flowers, and fall into such a state of sickness as requires a considerable time for their recovery. Towards the end of May the ground temperature usually rises to 56° in the latitude of London, but not till it rises to 60° is the summer fairly inaugurated. On the 7th of June, 1850, the temperature of the ground, two feet from the surface, at Chiswick, was 57½°; on the 7th of June, 1857, it was 57°; on the 7th of June, 1858, it was 60°; on the 7th of June, 1860, it was 55°! On the 14th of June, 1850, the ground temperature was 58½°; on the 14th of June, 1857, it was 56½°; on the 14th of June, 1858, it was 62½°; on the 14th of June, 1860, it was 56°! God forbid we should adduce these figures in a spirit of complaint. He who has promised that seed-time and harvest shall never fail, gives no account of his actions to man, but He does permit man frequently to learn the lesson that—

> "Behind a frowning Providence,
> He hides a smiling face."

But we may take practical lessons from the facts of Nature, and in the May and June issues of the Floral World we prepared our readers for such disasters as have come upon some of those who were not to be advised, and which have been escaped by those who were willing to accept good counsel. Some of our friends wrote complainingly that, if our advice was followed, they would have no flowers at all. May we ask them how they fare for flowers now? may we further ask if they have compared their beds and ribbons that were planted in May, with the beds and ribbons that were not planted till after the 15th of June, to which date we advised our readers to keep their plants under glass, instead of risking them to be soddened, and almost frozen in the last clutches of the slowly retreating winter. We say it again, and are prepared to advance the statement on comparison with the records of the best seasons as well as the worst, that in small gardens the bedding system is very often a bugbear. Superb as are its effects in great places where there is room for the display, and where the empty beds are not noticeable, in the abundance of beautiful forms that diversify the scene, flowering shrubs, hardy bulbs, and the best herbaceous border plants will pay better in gardens of moderate dimensions, than the present folly of devoting every inch of available space to bedders. An abundance of colour from July to the end of September is not sufficient compensation for the labour of securing it, and for the empty spaces that have to be endured all the rest of the year. How have we advised our readers during the progress of this work? Have we not suggested the culture of evergreen shrubs to move to and fro to keep up the freshness of the scene all the winter? Have we not given lists of the best herbaceous plants and hardy bulbs to precede the bedders with glorious masses of colour and foliage? so that instead of a rush for cheap geraniums and verbenas, that for summer display would be dear at any price, the amateur might take his time, be rid of the vexation of preserving quantities through winter, have his garden gay all through April and May instead of being a blank *waiting* for the bedders. We have no desire to extinguish the taste for colour, we would simply direct it; but what we want our readers to be mindful of is this, that the ordinary run of bedding plants *are not the only things* at our command for rendering the garden beautiful, and in the months of April, May, and the first half of June, when every ray of sunshine is so fresh and acceptable, the gardens ought to be, and might be, in their most beautiful dress, and that it is quite time enough for turning out the greenhouse plants, when the glorious spring flowers have done their work for the season. We sympathize most sincerely with the many who are now groaning in disappointment at the state of things to which the severe weather has brought them. They must not complain of the weather, that is ordered wiser than we know of.

> "The clouds we so much dread,
> Are big with mercy, and shall break
> In blessings on our head."

Let them lay the complaint to their own injudicious haste, and still more injudicious imitation, in places unsuited for its development, of the promenade style of decoration adopted at such places as Kew and Sydenham. If fashion makes war against the elements, which of them shall be vanquished? Fashion no doubt will war in vain.

NOTES OF THE MONTH.

Horticultural Society.—At the meeting of the Floral Committee, May 24, Mr. Standish, of Bagshot, exhibited some new hybrid rhododendrons, for two of which first-class certificates were awarded. They were named respectively Hamilcar and Maculosissimum. Another, named Rosabelle, was commended. Messrs. Veitch had a first-class certificate for a double-flowered Hemerocallis, called Distacha flore-pleno, a fine plant, the flower far surpassing the species, being quite double, colour bright orange, and the base of each petal stained with reddish-brown. J. T. Lennox, Esq., Hammersmith, exhibited some new variegated geraniums, as did also Mr. Prodgers, of Letton Hall, Yaxham, Norfolk. June 12.—At the meeting of the Fruit Committee some seedling strawberries were exhibited, only one of which can be at present mentioned as promising. This was named Prince Arthur. It is of average size, bright red colour, and agreeable, brisk flavour. It was raised by Mr. Small, of Colebrook, June 14.—At the meeting of the Floral Committee Mr. Standish exhibited two tree ferns, namely, Cyathea Smithii, and Cyathea Cunninghami, both new and deserving of culture as acceptable in the best collections. A charming hybrid azalea, between amœna and lateritia, quite hardy, and of excellent habit, came from the same grower. Also a new rhododendron, named Athenia, white, blotched with yellow, will probably grow in the style of Cunninghami. Messrs. Henderson, of Wellington Road Nursery, exhibited Imatophyllum cyrtanthiflorum, an amaryllis-like plant, which flowers from Christmas to June, in an intermediate house. It is of fine bold habit, and we believe will soon become a favourite with collectors of this class of plants. Mr. Laxton, of Stamford, exhibited a hybrid Dianthus. Messrs. Carter sent cut flowers of Aquilegia caryophylloides, a most beautiful double white-striped Columbine, to which a certificate was awarded.

Crystal Palace, May 26.—However in some quarters the peculiar character of the schedule had caused anticipations of a falling off in the character of the show, there was no lack of either stock exhibition plants or novelties. The schedule certainly places the affair in the hands of the large growers, to the exclusion of amateurs and gentlemen's gardeners, and that doubtless was the intention, a vast mass of flowers being of more consequence to the company as a popular attraction than small and choice collections, evincing careful culture and tasteful selection and grouping. A great show was wanted, and a great show was the result, but it lacked that peculiar interest which can only be secured by the competition of a number of assiduous cultivators, who aim at developing the art rather than astonishing the multitude of unprofessional and uninformed sightseers. The following is the substance of the excellent report which appeared in the columns of the *Chronicle*:—

The west end of the nave was remarkable for its long banks of pelargoniums and roses in pots, both magnificent examples of skilful cultivation. In the neighbourhood of the centre transept were brilliant groups of Indian azaleas, associated with statuary in such a manner as to be extremely effective. Fruit, surrounded by a living framework of miscellaneous stove and greenhouse plants, occupied the south end of the transept, and along each side of the eastern portion of the nave were arranged orchids, which were present in unusual numbers, Cape heaths, azaleas, fine-foliaged plants, and calceolarias, the whole forming almost continuous lines of floral beauty from the warm end of the building to within a short distance of the crystal fountain at the west-end of the palace. So great a display elicited, and justly, the admiration of all who had the good fortune to see it.

Of collections of 20 stove and greenhouse plants there were four exhibitions; that to which the first prize was awarded came from Mr. Whitbread, gardener to H. Colyer, Esq., of Dartford. It contained beautiful specimens of Azaleas, Erioste-mons, Allamandas, Boronias, among which Drummondi was conspicuous for its

numberless rosy-red star-like flowers; a capital specimen of the blue Leschenaultia. noble bushes of Aphelexis, Chorozema Henchmanni, and Varium nanum; the charming Dipladenia crassinoda, and immense plants of Erica elegans, in vigorous health and extremely well bloomed; a magnificent example of the willow-leaved Ixora, and some of the finer varieties of Epacris and Polygala. The next group in point of merit came from Mr. Peed, gardener to T. Treadwell, Esq., of Lower Norwood. In this collection was the heath-leaved Tetratheca, a noble bush, covered in the greatest profusion with beautiful lilac blossoms. This is a greenhouse plant of the easiest possible culture, and one which even small collections should not be without; it blooms freely even in a young state, and ought to be a universal favourite. Of Adenandras, especially fragrans, there were also some good specimens, and a large plant of Dracophyllum gracile, the snow-white tops of which when cut are very useful in bouquets. The other two collections came from Mr. Baxendine, gardener to W. H. Smallpiece, Esq., Guildford, and Mr. Page, gardener to W. Leaf, Esq., of Streatham.

Groups of 12 stove and greenhouse plants were contributed by Messrs. Green, Peed, Kail, Cutbush, and Rhodes. Among these we noticed Gompholobium polymorphum trained in the form of a bush, by means of small neat upright stakes concealed from view by numberless slender stems, covered with multitudes of comparatively large orange-red pea-shaped blossoms. Managed in this way it has a much more graceful appearance than when tied stiffly to a wire trellis, which is the usual way of training it. The orange-red bell-flowered Genetyllis Hookeriana came from Mr. Rhodes; Hoya Paxtoni, Pentas carnea, Abelia floribunda, the Oleander-leaved Allamanda, and Æschynanthus longiflorus from Mr. Peed.

Exhibition of other stove and greenhouse plants in collections of eight and six were numerous. The best came from Messrs. Chilman, Carson, Green, and Fraser.

Of plants remarkable for the beauty of their foliage, Messrs. Young, Rhodes, and Hutt sent highly-interesting collections. Among these were beautiful masses of Farfugium grande, caladiums of different kinds, azaleas, marantas, of which one of the handsomest is capitata, a noble plant with large obovate lively green leaves, prominently ribbed, striking, and effective; Cissus discolor, palms, ferns, Rhopalas. Dieffenbachias, and plants of that description; together with a handsome collection of variegated-leaved begonias from Mr. Young.

Orchids were produced in great abundance and beauty. Collections of 16 were contributed on this occasion by Mr. Gedney, gardener to the Rev. Mr. Ellis, of Hoddesden; Mr. Bullen, gardener to J. Butler, Esq., of Woolwich; R. Warner, Esq., and Mr. Rhodes, gardener to J. Philpot, Esq., Stamford Hill. In the first of these collections were one or two varieties of Acrides, Lycaste Skinneri, the white-butterfly plant (Phalænopsis), Phaius Wallichii, Cattleya citrina, with three charming canary-coloured flowers; the handsome purple-lipped Lælia purpurata, an example or two of Moss Cattleya, Vanda suavis and tricolor, Dendrobium primulinum, with pale sulphur lip and delicate pink petals; the brilliant orange-scarlet Epidendrum rhizophorum, the hairy Lady's Slipper (Cypripedium villosum), and Calanthe veratrifolia. From Mr. Bullen came the orange-red Saccolabium curvifolium, a Lælia allied to purpurata, Oncidium luridum guttatum, Cattleya mossiæ, Aerides affine, an excellent specimen of white Calanthe, Saccolabium guttatum and præmorsum, the latter bearing a large cluster of small spikes of flowers; Lælia purpurata, two kinds of Vanda, Cattleya intermedia, and the rare and beautiful Cattleya Aclandiæ, producing three brown-barred purple-lipped flowers; a large Phalænopsis, Phaius Wallichii, the rare rather than beautiful Chysis Lemminghi, and a large Aerides odoratum. In the other collections were the Fielding Fox-brush Aerides, Cattleya labiata, Dendrobium nobile, a variety of Trichopilia coccinea, loaded with blossoms; Lælia cinnabarina, with six spikes of orange-red blossoms; the purple and green-flowered Cypripedium hirsutissimum, Oncidium ampliatum majus, the rhubarb-scented Dendrobium macrophyllum, and the Wallich Phaius.

The most conspicuous among Mr. Rhodes' plants was a nice specimen of the Fielding Foxbrush Aerides.

Groups of ten Orchids were contributed by Mr. Carson, gardener to W. F. G. Farmer, Esq., of Cheam; Mr. Lovell, gardener to H. E. Gurney, Esq.; Mr. Woolley, of Cheshunt, and Mr. R. Warner, of Broomfield.

Collections of six Orchids came from Messrs. Warner, Bullen, Bunney, Carson, and Woolley.

Of Azaleas there was a grand display. The plants from Messrs. Carson and

Green being large and very full of blossom, and occupying as they did conspicuous positions near the centre of the building, were very effective, and were deservedly much admired. In both were good examples of the yellow sinensis. The others were equally well-known kinds. Messrs. Whitbread, Gaines, and Peed also showed large collections. Groups of smaller plants were abundant. For newer kinds Mr. Turner received a first prize; the sorts were Gem, rich rosy salmon, and one of the best shaped Azaleas in cultivation; Stanleyana, Empress Eugenie, purple; Sir H. Havelock, bright orange red; Criterion, Miltoni, rosy purple; Prince Jerome, brilliant orange red; and Petuniæflora, rosy lilac, a distinct and pretty kind. Mr. Ivery, of Dorking, sent Beauty of Europe, a sort like Criterion, but with more colour in it; Duc de Nassau, showy purple; Stanleyana, Empress Eugenie, Admiration, white with red flake; Gem, Criterion, and Crispiflora, the last an extremely pretty purple kind with curiously crimped edges. Messrs. Green, Fraser, and Jackson also showed in this class. Mr. Barnes had some neat little standards of Magnet, a rosy-salmon kind, very hardy and free flowering.

Roses in pots were magnificent, and, of course, were much admired. To Messrs. Paul was deservedly awarded the first prize. The sorts were Madame Willermoz (Tea), creamy blush, seven feet high, with more than 100 expanded flowers; Souvenir d'un Ami (Tea), rosy salmon, large egg-shaped blossoms; Coupe d'Hébe (hybrid Bourbon), pink; Paul Perras (hybrid Bourbon), rose colour, six feet high and five feet through, with nearly 100 blossoms; Paul Ricaut (hybrid Bourbon), brilliant crimson; Auguste Mie (hybrid perpetual), peach blossoms, very large and of fine form; Géant des Batailles (hybrid perpetual), purplish crimson; Louise Odier (hybrid perpetual), pink; Duchess of Sutherland (hybrid perpetual), rose colour; and Souvenir de Malmaison (Bourbon), white flesh-coloured centre flowers, very large. Messrs. Lane sent Coupe d'Hébé, Chenêdolé, Paul Perras, Devoniensis (very fine), Souvenir d'un Ami, Queen, and Jules Margottin. Mr. Francis had Souvenir d'un Ami, Jules Margottin, Coupe d'Hébé, Paul Perras, Madame H. Jacquin, General Jacqueminot, Chenêdolé, Blairii, Augustine Mouchelet, Comte Boubert, and Baron Prevost.

No amateur Rose growers showed upon this occasion, *which was doubtless owing to their being compelled to compete with such cultivators as the nurserymen just named*, and against whom they would have no chance of winning. On this, however, and on the other new regulations to which we briefly alluded in a previous number, we understand the judges have been instructed to make a special report.

New and rare plants were scarce. Those that were shown came chiefly from Messrs. Low, of Clapton, who sent Alocasia metallica, an ornamented foliaged stove plant allied to Caladium, with large, shining, bronzy leaves, covered with a singularly beautiful metallic bloom; Sphærostema marmoratum, a silvery white mottle-leaved climbing stove plant, which will form a good companion to the well-known Cissus discolor; Anæctochilus Petola from Java, with dark green leaves, beautifully traversed with pale yellowish veins; Plocostemma lasianthum, a warm greenhouse shrub, with blossoms resembling those of Cyrtoceras reflexum; and the pretty little Bornean Fern called Lindsæa Lowii. Stangeria paradoxa, a singular plant described in former volumes, was shown by Mr. Young, of Dulwich. Mr. Gedney, gardener to the Rev. Mr. Ellis, sent a brown-spotted bright sulphur-coloured Iris-like plant, said to be a Cypella from Southern Africa. From Messrs. Jackson, of Kingston, came Quercus bambusæfolia, and an Ilex from Upper India. A blush-white purple-lipped Lælia was shown by Mr. Warner, of Broomfield, and a handsome leaved Begonia by Messrs. Ivery.

In Pelargoniums the competition was of the strongest description, all growers of this flower being admitted thereto. In the large class one prize only was awarded to a private grower. In fancies two were taken by nurserymen and two by private growers, every plant exhibited being good. The first prize for ten varieties of the large kinds was awarded to Mr. Turner, of the Royal Nurseries, Slough, for Prince of Wales, Governor-General, Desdemona, Impératrice, Admirable, Fairest of the Fair, Evangeline, Rose Celestial, Mr. Marnock, and Etna. Messrs. Fraser, of Lea Bridge, and Messrs. Dobson were placed equal second. Messrs. Fraser's plants were Floribundum, Sansparcil, Rosamond, Governor-General, Pallas, Mokanna, Admirable, Una, Mr. Hoyle, and Fair Ellen. Messrs. Dobson showed Aurelia, Sansparcil, Una, Rosalie, Vestal, Euphemie, Governor-General, Bride (a beautiful white variety), Rose Celestial, and Fairest of the Fair. Mr. Tandy, of Putney Heath, and Mr. Windsor

were the other successful competitors. Mr. Tandy's plants were Lucy, Symmetry, Clara, Fidelia, Eclipse, Una, Faunus, Governor-General, Admirable, and Sans-pareil.

"Fancy Pelargoniums were exceedingly beautiful, and were deservedly the admiration of all beholders. Mr. Turner was awarded the first prize for Moderatum, Circle, Adèle, Cloth of Silver, Acme, Negro, Madame Rougière, and Clemanthe. Messrs. Fraser exhibited Cloth of Silver, Carminatum, Evening Star, Delicatum, Queen of Roses, Cassandra, Formosissimum, and Celestial. Mr. James's collection consisted of Carminatum, Attraction, Evening Star, Delicatum, Lady of the Lake, Madam Rougière, Purpureum album, and Celestial.

Calceolarias were only second-rate, and Cinerarias were nearly over.

Tulips were shown in great condition; those from the Slough collection and from R. H. Betteridge, Esq., of Abingdon, as well as those from Mr. Norman, of Woolwich, were of the finest strains. The last were, however, too much crowded together to be effective. George Hayward we may select as the best bizarre, the Duchess of Cambridge as the best byblœmen, and Sarah Headly as the best rose. These were fine indeed, and so were many others.

Black Hamburgh Grapes were shown in admirable condition by Mr. Henderson, gardener to the Duke of Sutherland at Trentham; Mr. Hill, gardener to R. Sneyd, Esq., Keele Hall, Staffordshire; and Mr. Frost, gardener to E. L. Betts, Esq., of Preston Hall, near Maidstone. To the first two exhibitors equal first prizes were deservedly awarded. Mr. Frost's fruit, though scarcely so well coloured, was also otherwise an extremely good example of successful Grape growing; Messrs. Tegg, Bones, Euston, Baker, and others also showed in this class. In the class of baskets of 10 lb. each (Black Hamburgh), the best came from Messrs. Hill, Frost, Smith, and Powell. These, especially the first two lots, consisted of extremely well ripened fruit. Mr. Spary also contributed a basket of Black Hamburgh, very perfect as regards colour, but somewhat small in the berry. Muscats, with the exception of a fine dish from Mr. Embry, gardener to A. Moss, Esq., were not good. Those just mentioned, however, considering the season, were excellent; White Muscadine came from Mr. Frost and Mr. Jones, and Dutch Sweetwater from Mr. Euston.

Violette Hâtive Peaches, beautiful fruit, large and well coloured, came from Mr. Dawson, gardener, Broadlands, near Romsey. Very fine fruit of Royal George also came from Mr. Henderson, of Trentham, and Mr. Williamson, gardener to Viscount Enfield, Wrotham Park, Barnet. Violette Hâtive Nectarines, fine specimens, came from Mr. Henderson, to whom a first prize was awarded, and from Mr. Peacock, who was second. Mr. Robinson showed Hunt's Tawney in excellent condition.

The best Strawberries were contributed by Mr. Smith of Twickenham. The sorts were Sir Charles Napier, and a large dark-coloured new variety which was said to be of good flavour. The only other new kind we saw was Oscar, of which Mr. Turner, of the Royal Nursery, Slough, showed a dish of large and beautiful fruit.

Melons were for the most part good. Among scarlet-fleshed varieties the best was Norwood Gipsey from Mr. Peed, which on this occasion beat Gem, from Messrs. Bailey and Tegg. The best green-fleshed sort was Perfection, from Mr. Kail, gardener to Lord Lovelace. A Pine-apple Melon from Mr. Whiting was placed second, and a hybrid green-fleshed sort, from Mr. Taplin, third.

Among miscellaneous fruit were some large and fine Oranges and Citrons from Mr. Williams, gardener to Mr. Warner, of Hoddesdon; and Mr. Waters, gardener to A. Moore, Esq. We also noticed two dishes of Apples, apparently French Crab, plump, and in excellent preservation.

Royal Botanic, Regent's Park, May 30.—This was in all respects an excellent exhibition; but falling so soon after the exhibition at the Crystal Palace, the great bulk of the plants was the same as was present upon that occasion.

In Stove and Greenhouse plants Mr. Collyer was beaten by a new exhibitor, Mr. May, gardener to J. Spode, Esq., who sent from the neighbourhood of Rugeley sixteen specimens, which, for freshness and beauty, were the admiration of everybody. They consisted of Hederoma tulipiferum, well furnished with bloom, but still not a very effective plant for purposes of exhibition; the willow-leaved and scarlet-flowered Ixoras; an extremely handsome bush of Gompholobium polymorphum; Dipladenia crassinoda with forty-five bright rosy blossoms on it, all in great perfection; some

Everlastings; a most beautiful specimen of Acrophyllum venosum, a fine specimen of Azalea Criterion, Epacris miniata splendens, one of the best of the many varieties of that showy kind; the heath-leaved Tetratheca, an Eriostemon or two, and the pretty Boronia Drummondii. To these a first prize was justly awarded.

Azaleas and Rhododendrons were beautifully in bloom. Of the latter a fine collection of yellow or buff coloured kinds was shown by Messrs. Lane, of Berkhampstead. Among them there was, however, nothing different from what has been noticed by us on former occasions. Azalea rosea grandiflora, Volunteer, and variegata superba, all fine kinds, were shown by Messrs. Jackson, of Kingston.

Among Cape Heaths we noticed a new variety of depressa from Mr. Rollisson. It appeared to be of more upright growth than the parent, and the flowers were also of a different shade of yellow.

Roses in pots were again shown by nurserymen in good condition, and this time there were also fine collections from Mr. Terry, gardener to Lady Puller, and A. Rowland, Esq., of Lewisham. The former had an admirable specimen of the bright yellow Vicomtesse Decazes; and in Mr. Rowland's group were also equally fine kinds.

Of real novelty there was little. Messrs. Veitch contributed a Cypripedium in the way of hirsutissimum, a long-leaved handsome orange-red veined Dracæna from New Zealand. The handsomely-variegated Pteris tricolor and P. crispa were shown by Messrs. Parker and Williams; and Biota orientalis elegantissima, Ixora robusta, and a pretty purplish rose, Epacris, with a bold white tip, came from Messrs. Rollisson, of Tooting. Other plants shown in this class consisted of a double-flowered fuchsia (Applause) from Mr. Smith, of Hornsey; a purple Statice called profusa, and Viburnum macrocephalum, from Messrs. Parker and Williams; and petunia, the Queen (Holland), deep purplish rose, with a large white eye, from Messrs. E. G. Henderson, St. John's Wood.

Of Bougainvillæa a boxful of magnificent blooms was shown by Mr. Daniels, and also some not half the size from a plant to which no bottom-heat had been applied.

Pelargoniums, especially the two first collections, both from nurserymen and private growers, have seldom before been seen in such fine condition as they were on this occasion, taking size of plant and quality of flower into consideration. Leviathan and Etna from Mr. Turner, and Symmetry from Mr. Foster, were the admiration of everybody. For 12 plants the first prize was awarded to Mr. Turner, Slough, who sent Mazeppa, Governor-General, Imperatrice, Fairest of the Fair, Desdemona, Rose Celestial, Festus, Leviathan, Etna, Sir Colin Campbell, Lord Raglan, and Fair Ellen. Messrs. Dobson were second with Pallas, Bride, Sanspareil, Una, Aurelia, Vestal, Admirable, Rosalie, Agnes, Euphemia, Governor-General, and Fairest of the Fair. A third collection came from Messrs. Fraser, of Lea Bridge. For fancies the first prize was awarded to Mr. Turner for Negro, Beauty, formosum, Acme, modestum, and Madame Rougiere. Messrs. Fraser, who were second, sent Cloth of Silver, Celestial, Evening Star, Queen of Roses, formosissimum, and Cassandra. For plants from private growers, Mr. Nye, gardener to E. Foster, Esq., took the first prize, with Mazeppa, Fairest of the Fair, Sanspareil, Viola, Fair Ellen, Saracen, Symmetry, Prince of Wales, Rose Celestial, and Sprightliness. Mr. Bailey, gardener to J. T. Drake, Esq., Shardeloes, was second, with Eugene, Duval, floribundum, Una, Mr. Marnock, Carlos, Spotted Gem, Fair Ellen, Sanspareil, and Admirable. Of fancies from private growers, Mr. Bailey sent Celestial, Lady of the Lake, Attraction, formosissimum, Evening Star, and Acme. Mr. Holland showed carminatum, Cloth of Silver, Madame Van de Weyer, Celestial, Evening Star, and Queen of Roses.

As an incentive to amateur growers, we give the dimensions of Mr. Holland's plants, taken by ourselves a few days previous to the show, when we had the pleasure of inspecting them:—Carminatum, perfect in outline and most evenly bloomed, 3 feet 6 inches in diameter; Cloth of Silver, the most chaste and delicate of its class, 3 feet 4 inches; Madame Van de Weyer, a superbly habited variety, 3 feet 10 inches; Celestial, 3 feet, without stick or tie; Evening Star, 3 feet 9 inches, a perfect model of a specimen plant in shape and regularity of bloom; Queen of Roses, a circumference of 9 feet 8 inches. This is a cheerful flower of a clear rose, with a fine top petal.

Seedling pelargoniums were numerous. Those selected for awards were

Patroness (Turner), white with large dark spot on the top petals; Perdita (Foster), a very smooth fine-formed flower, white centre, dark top; and two fancy kinds, Arabella Goddard and the Champion, both from Mr. Turner, the former a beautiful rose. Mr. Hoyle and Mr. Beck sent some promising flowers, which we hope to see again in June. Messrs. Rollisson sent some prettily spotted kinds, of which Prince of Orange appeared to be the best; it is bright in colour, and the spots dark and striking.

South Metropolitan Amateur Chrysanthemum Society. (Tulip Class.—The first annual show of this class took place on Tuesday, May 29th, at the Society's meeting-house, the Sutherland Arms, Walworth. There were twenty-four stands exhibited, consisting of six stands of twelve flowers each, and six stands of six flowers each, in the classes for competition, the remainder being stands of very fine Tricolors and Seedlings by Messrs. Quelch, Hughes, and Morgan; several stands were also exhibited, but not for competition.

In the First Class of Twelves Mr. Quelch obtained the first prize for Pinder's Maid of Athens, Mountain Sylph, Strong's Eliza, La Belle Nanette, Aglaia, Sir Roger de Coverley, Polyphemus, Charleston Beauty, and Dixon's Duke of Devonshire. The second was awarded to Mr. Rose for Vivid, Desdemona, Strong's King, Lord Stanley, Siam, La Belle Nanette, Rose Bagut, Pilot, Ivanhoe, Rose Emily, Rose Amburg, Hamlet, Cerise Belle Forme, Polyphemus, and Fleur des Dames. The third was given to Mr. Ware for Vivid, Louis XVIII., Rutley's Queen, Sir Roger de Coverley, Delaforce's Commodore, Optimus, Aglaia, Walker's Duchess of Sutherland, Catalini, May's Prince Albert, Groom's F. Perkins, and Norah Creina. The other stands in this class were exhibited by Mr. Bellamy, Mr. Lee, and Mr. Morgan.

In the Second Class of Sixes Mr. Chappell was successful with Norah Creina, Triomphe Royale, Vivid, Duke of Devonshire, Maid of Athens, and Mountain Sylph, and gained the first prize; Mr. Mousley, for Frederick George, Triumph Royal, La Belle Nanette, Franciscus Primus, Lord Byron, and Delaforce's King, the second; and Mr. Castle for Vivid, Unknown, Agliaca, Triomphe Royale, Lord Byron, Globe Bizarre; the third and fourth stand, by Mr. Street, deserved especial praise, and also a Card of Commendation.

In the Extra Class for Maiden Growers (also Sixes), the first award was given to Mr. Tolley for Claudiana, Rubens, Triomphe Royale, Darius, Salamander, and Duchess of Wellington; the second was awarded to Mr. W. Bull for Washington, La Van Dicken, Darius, Cara Dolce, Holmes's King, and Triomphe Royal. The show was well attended, and considering its being the first in the tulip class of a young society, with an almost unprecedentedly bad season, may be said to have been decidedly successful.

Amateur Tulip Society, May 28.—The annual exhibition was held at the Greyhound Hotel, Dulwich. The flowers were exhibited in two classes—Class A, for flowers grown more than five miles from the General Post-office; and Class B, for those grown within that distance. The three prizes to country growers were as follows (country and town growers, each exhibiting nine flowers):—First, C. Headly, Esq., Stapleford: *Bizarres*, Polyphemus, Pactolus, Seedling; *Roses*, Hermione, Leonora, Sarah Headly; *Byblœmens*, Sir J. Lawrence, Adonis (exquisite), Lord Bloomfield. Second, C. Williams, Esq., Tottenham: *Byblœmens*, Walker's Duchess of Sutherland, David, Napoleon; *Bizarres*, Dr. Horner, Pilot, Selim; *Roses*, Triomphe Royale, Claudiana (fine), Crook's Mary. Third, N. Norman, Esq., Woolwich: *Byblœmens*, Anastasia, Maid of Orleans, Duchess of Sutherland; *Bizarres*, Delaforce's Perfection, Cotterell's Eliza, Sir C. Napier; *Roses*, Aglaia, Triomphe Royale, Mr. Smith. Town growers, as follows:—First, B. Williams, Esq., Stamford Hill: *Bizarres*, Hamlet, Optimus, Vivid; *Byblœmens*, Lalla Rookh, Duchess of Sutherland, the Recruit (new); *Roses*, Groom's Duchess of Sutherland, Heroine, Fair Rosamond. Second, C. P. Delaforce, Esq., Peckham: *Roses*, Meteor, Claudiana, Matilda; *Bizarres*, Strong's King, Hamlet, Elizabeth; *Byblœmens*, Ariel, Duchess of Sutherland, F. Kemble. Third, F. Were, Esq., Camberwell: *Roses*, Aglaia, Julia, Dunn's Mrs.

Lindsay; *Byblœmens*, Slater's Earl of Warwick, Triomphe d'Lisle, Duchess of Sutherland; *Bizarres*, Groom's Mr. F. Perkins, Vivid, May's Prince Albert. There were some very good blooms in the best of the losing stands, Mr. Batten, florist, of Clapton, exhibited a stand of twenty-four blooms, all but five of which were shown at Cambridge on the 23rd, and were in capital condition still. Subjoined is a list of his blooms:—Duchess of Sutherland, R. (Groom); Duke of Devonshire, Biz. (Sanders); Commodus, Byb. (Delaforce); Plutoff, Biz.; Cleopatra, Byb.; Omar Pacha, Byb. (Batten); Sir H. Smith, Byb. (May); Plantagenet, Byb. (Hooker); Optimus, Biz.; Triomphe Royale, R.; Sir J. Paxton, Biz. (May); Gregg's Rose, R.; Tariff, Biz.; Washington, Byb.; Polyphemus, Biz.; Willis's King, Biz.; Barnivald; Ulysses (May); Bell Form, R.; King, Biz. (Delaforce); Cataline, R.; Emperor of Austria, Biz.; Lord Palmerston, Byb. (Batten).

Lecture on the Rose.—Mr. Hibberd delivered his lecture on the "Cultivation of the Rose" before the members of the Sydenham Floricultural Society, on the 7th ult. The chair was taken by the Rev. W. English. The vote of thanks to Mr. Hibberd was proposed by W. Hereman, Esq. The lecture was again delivered before the members of the Brixton, Streatham, and Clapham Society, on the 28th.

National Rose Show.—This is postponed to July 12th, on account of the severity of the season, and the consequent lateness of the bloom.

Floral Hall, Covent Garden.—There was a tasteful and liberal display of flowers on the occasion of the opening of this handsome structure on the evening of the 12th of June. Her Majesty graced the hall with her welcome presence, and, as a matter of course, beauty and fashion added their charms to the superb floral display. The exhibition was thrown open to the public on the two following days, and was eminently successful as an attraction to sightseers as well as the connoisseurs of flowers and the students of contrast and harmony of colour, in which the exhibition set forth some striking lessons.

THE VALUE OF TOWN SEWAGE.

The towns are eating up the country; the population increases, and the soil is being worn out. Better for the endurance of England's greatness and prosperity when the old cesspools were in fashion, for the land was not then so largely robbed; the mysterious waggons that moved by night restored the balance between the country and the town; now, the waggon must take off its wheels, hoist sails, and go to Peru for a substitute for night-soil; and we pay double, first to supersede the cesspool with expensive works, then to get the guano safe to our shores. Cheap food and plenty of it are out of the question while such a state of things continues. But it is only at the last stage that the new plan fails. We don't want to go back to the old cesspool, which one man would have cleansed at the proper time, and another would neglect till it poisoned himself, his family, and his neighbours; but we want the new system completed, and Mr. Isaacs is one who believes it can be completed, so as to restore to the land at least a part of that which we incessantly abstract from it. "That it contains fertilizing matter of the best description, too, must be admitted, when its constituents are considered; indeed, were other evidence wanting, its putrefactive nature should alone be sufficient to assure us that it is highly charged with decomposed animal and vegetable matters, than which no better fertilizer can be applied to the land." Yes, Mr. Isaacs, it stinks, and every gardener and farmer will pronounce it to be valuable for that very reason; for the nose is the best witness on this particular question of the value of town sewage.—*City Press.*

ROSES FOR THE MILLION.

THERE is just enough of difficulty in the cultivation of the rose to attract the ardent spirits of the horticultural world, as all difficult enterprises attract those who are able to cope with them, and at the same time the difficulties are so easily surmountable that the most timid need not be alarmed. With the queen of flowers we associate remembrances of green-fly, mildew, sudden death, for highest beauty is soonest assailed by corroding influences, and all that's fair soonest fades, unless hedged about with protection from the evil. There are many subjects that engage our attention on which we divide opinions as to their merit, but there can be no division on the merits of the rose; it stands at the head of the list among the adornments of the garden, and we look with little less, perhaps with more, delight on the cottager's clumps of maiden blush and Provence and cabbage-roses than on the prince's mixture of teas, and Bengals, and hybrid perpetuals. I will not now say a word as to the species or varieties, because the business at this season is the propagation of those we have, and to discuss the several merits of the classes, and their botanical and floral distinctions, as fully as the subject deserves, would lead us away from the one important topic of the moment. This season roses are really in good condition; the long-continued rains which have made verbenas black, and geraniums brown, and petunias of no colour at all, has given a vigour to the roses such as they have not had at the same time of year for a long time past. Geant des Batailles and a few others of the same section are a little mildewed, but in our own experience not a single fly has yet been seen, and, as for the maggot, though it broke out in its usual force at the first start of the summer-growth, the ordinary method of dealing with it proved effectual, and the few buds lost could be spared as a thinning for the benefit of those that were untouched.

I am compelled to suppose the reader knows how to perform the operation of budding. It cannot be taught in the first instance by any book; it must be seen at least once, and after that a little reading on the subject will be profitable as a means of improvement, and the novice will begin to appreciate what writers say as to the value of this or that mode of operation. Now is the time to begin the work of budding on stocks of all kinds. The sooner the buds are entered the sooner will they start, and they ought to make good shoots before the autumn closes, so as to be hard enough to endure any degree of frost and rain during winter. From frequent observation, I am satisfied it matters not from what sort of wood we take the bud, whether from a flowering shoot or the growth of the season, provided the *bud* itself is of the right sort—plump enough to be visible, not plump enough to be on the point of opening into leaves, and the bark about it so full of sap as to separate easily from the wood of the shield. There is this advantage in working roses on strong stocks, that we get blooms the next season, and, if the culture is thoroughly liberal, one season's growth from the bud is enough to make respectable heads, and amongst a lot budded now a large number will be fit to plant in the rosery next February. On their own roots they need another year to make a similar effect, and thus, by using foster roots, we steal a march on time. Now, as to the process of budding, roses differ among themselves as men do; some are tractable, and some are stubborn. Jules Margottin will give good buds from the end of June to the middle of October, but Aimée Vibert will never give a bud such as a beginner can handle with safety. If you cannot remove the wood from the shield by a neat action of the thumb-nail or the back of the point of the budding-knife—the nail being the best—let the wood remain, and make of it a summer graft, in the same method as inserting a bud. Through not knowing this practice, or not thinking of it at the time of operating, many amateurs fail with roses that make thin wood and wiry buds, whereas, by retaining the wood, the difficulty is at an end, and you may work such a rose while the bud is invisible, especially after heavy rains, when the stocks are full of sap and ready to nourish them forthwith. Another point to be remembered in using plump buds from shoots of the season, the shields of which perhaps are very soft, is this, that a little wood left in the eye is of no consequence at all. When you have peeled the bud, there will be an obstinate bit of wood left, to get out which will probably destroy the eye altogether. You must throw that away, and prepare another, which may share the same fate, and, if you happen to have but one plant of the variety to be propagated, the whole shoot may be cut up, and the chance of propagating lost for the season. Peel the shield as clean as you can without

splitting it, and, if a bit of wood remains in the eye, there leave it. The grand thing is to unite the edges of the two barks at the top cut where the union will take place, and to have the shield pressed close to the wood in the incision on the stock, a result to be obtained only by binding it carefully. Another and still more important point is, not to mind the *apparent* loss of the eye when the shield has been dexterously separated. Immediately after flowering the buds are not always so prominent that you can be sure you have it safe after removing the wood, but be assured it *is* there. Insert the bud, tie such a bud not extra tight, but with an extra thickness of cotton-wool to prevent exhaustion by evaporation, and it will come as certainly as the plumpest. Nevertheless, dismissing these exceptional cases, I prefer a visible bud from the growth of the season, and the removal of the wood clean and complete. Example—Geant des Batailles, General Jacqueminot, Auguste Mie, Jules de Margottin, William Griffiths, Madame Vidot, Madame Louise Odier budded at the end of June, 1859, on short stout briars, wild wood all got rid of before winter, moved from nursery quarters on the 15th of May this year, now with fair-sized heads, a few blooms produced, and nipped off to give them a fair chance of blooming as much as they please this autumn. Mind, they were only moved at such a time to fill up blanks caused by the severe winter, and would have been lost unless shaded with wet mats, except in such a tremendously wet season. As it was, they were only shaded for two or three days, and are now as safe as old established plants. "Don't do as I do; do as I tell you." Another advantage in budding is its certainty. What a perplexing task it is to get plants of Rosa alba on their own roots; even Aimée Vibert and Ophirie puzzle the amateur propagators; but most of the perpetuals come from cuttings as readily as calceolarias and by much the same sort of treatment. The rose that refuses to make roots for itself must be worked, and the fashion of working must be in accordance with the circumstances of the cultivator and the habit of the variety in hand. Just now, look over your briars, and you will probably see lots of smart green upright suckers; or you may have kept down suckers according to the routine prescribed in the books. I shall call you a wise man if you let all the best of the suckers rise, and I can tell you that for the past three years, being a little out of reach of good stocks from the hedges, I grow my own stocks from suckers on the ground. Here is a nice three-feet stem, with at least two shoots at top in good positions to take buds. Remove all the other shoots by a clean cut, and shorten in those to be budded, not to cripple them, but so that you can get along the rows conveniently, and work at ease. There is also one stout green sucker, which, in the ordinary way on the routine taught in books, must grow another year to form hard wood and side-shoots for budding. Work the two shoots at top with a bud on each, and let it be your fixed and unalterable law, on the fashion of the Medes and Persians, to form a head from one bud only. At the nurseries they enter two buds, to make assurance doubly sure. You do the same. At the nurseries they let both buds start, to get a head quick that will bear a price; but don't you do that. Whichever takes the lead keep, and cut the other clean away; one bud will ultimately form a better head than two, though the first season the two might give you the most to look at. It is important to work them early, so as to get a good start the same season, and have the wood well ripened at its close, and if towards the middle of October the new shoot is still growing away, and you see reason to believe it will be soft when the frost comes, nip out the point for the last time, and then take your largest digging-fork, thrust it in nine inches or so from the collar of the briar, and give it a gentle heave, not to shake it much, but enough to check it, and the wood of that new shoot will ripen in a fortnight.

Now about these suckers. Run your eye along them from head to foot. Say the sucker is three feet high; at two feet from the ground the young wood is in just the same state of greenness and ripeness as the base of the summer shoot, which you have just budded on the top of the stock. Instead of waiting till next season, bud it there at once just under one of the leaf-rings, "gun-barrel" fashion, and six inches higher up on the opposite side, also under a leaf-ring, and with the top of the shield on the line of the leaf-ring, enter another bud, and you will have a fine plant to bloom next season. I never had faith in this gun-barrel working until driven to it this time three years on receiving from a friend some scions of roses I wanted, at the very moment when every one of my proper briars were weighted with as many as they could carry. Thinks I, I've read a good deal for and against this plan, now I'll try it on the little rejected green briars and the suckers of the strong ones. They

made beautiful plants, and, as to the operation, it is as easy, or easier, than the usual method of working on a shoot. Make an incision like the letter I on the stem; then a cross-cut on top, to make the usual T, but let the incision and the shield be a little longer than usual with top-shoots; in fact, use the largest shields you can get from very plump rods, to suit the robust nature of the wood you work on. Tie up and tally, in fourteen days loosen; in a month from entering remove the binding, and you will be surprised at the growth of the new shoots. They will soon distance those entered in the usual way on side-shoots of hard briars. Thus briar and rose begin the world together; there is no conflict between youth and age, and the junction is rapid and complete. Of course the side-shoots must be nipped in, and in November removed altogether, and the stem cut back clean over to the topmost of the two entered buds. That topmost bud will probably not unite so well as the one lower down. At the meeting at Brixton, on the 24th, I showed them an example of how the top bud of a "gun-barrel" worked rose will sometimes live by a bit of green bark on the bud side only, the briar perishing slantwise behind it. The first summer after the budding, it can be cut clean back to the lowest bud, and will heal over at once, and the growth of the head will be all the better for it, for, as in the former one, one bud is quite sufficient; but, to get that worked sucker up with good roots, there's the rub. Just don't think about that, if it is the right sort of plump green briar for the purpose. By removing a little of the earth from the collar, you can pretty well judge whether it comes direct from the stem of the parent briar or from the root stock under ground. If it comes from the old stem, trace it to its source, pass your finger under the bend, close to its junction with the collar of the parent briar, and having made a clear way for a small knife, cut a small notch in the under side, of the shape and size of this ∧ Fill in the hole with gritty stuff, or a spadeful of leaf-mould, and it will be sure to make roots for itself long before November. Then separate it and plant it as an independent briar, on which at least one season has been saved in its final progress to the rosery. If the sucker comes from the root stock, it is sure to have plenty of fibres when November comes, and therefore needs no preparation. Remove it then and plant it with the rest. On this plan, instead of suckers being a nuisance, they may all be turned to account, and your roses multiplied into dwarfs and standards, according to your wants, and the materials at command.

But the briar, though the best stock for all general purposes, is not the only one available. The FLORAL WORLD has always stood up for the Manetti as the best stock for free-growing roses, on soils unfavourable to the briar, and where roses on their own roots would starve. Nevertheless the Manetti does well on stiff rich heavy soils, and is perhaps more adaptable in its nature than any variety of rose in cultivation. People ask what it is and where it comes from. Mr. Rivers disposes of those questions in a few words, in his book, the best of the class extant, "The Rose Amateur's Guide." He says, "I received it, some 20 years' since, from Como, from Signor Crivelli, who recommended it as the very best of all roses for a stock. It was raised from seed by Signor Manetti, of the Botanic Gardens at

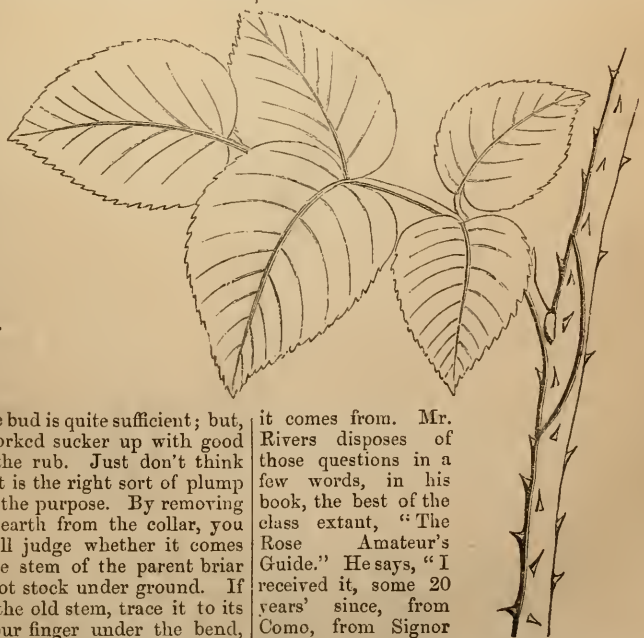


FIG. 1.

Monza. All the roses I have budded on this stock have succeeded admirably." The best of this stock is, that when once the bud has taken possession of its sap, it ceases to throw up suckers, which, however we may turn to account in nursery quarters, are in the rosery a nuisance. It may be worked later than any other stock, and if September pass by and you have lost the last chance of budding, then you can wait till March and graft your roses on its roots. Manetti's, however, will not make standards; they must be worked as close to the ground as possible, and at the final planting the base of the shoot from the entered bud must be planted below the ground level, to give the rose a chance of making roots for itself, which it will generally do, but *not always*. For chalky, gravelly, and sandy soils this is invaluable. Then, if there be neither Manetti's nor briars in the garden, you still have probably one of the best of stocks in that old favourite, the Maiden's Blush. What an excellent habited rose that is; does not push out suckers at a great distance like common moss or cabbage, or briar; makes roots freely; takes a bud of almost any kind, whether shy or free, and never overpowers the bud with its own growth, although it is a robust grower. Next to that, place the China

Fig. 2.

rose Descartes, also excellent for all the Chinas, especially such as Mrs. Bosanquet, and others of delicate habit. Felicité Perpétue, again, is another good stock, and if you get a clean, straight stem, of any of the common order of free-growing roses, you may make a standard of it as easily as with a briar; in fact, you may work upon any rose that you have plenty of, but, as a rule, work near the ground, and aim at dwarf plants unless your stems for standards are of very clean growth, and the varieties such as are not given much to suckering.

After all this, in loamy soils the majority of good roses do best on their own roots, and to make good beds and for the fronts of mixed borders standards are by no means the best plants. Let every amateur set his heart and his hands on the task of raising roses on their own bottoms, as a more worthy enterprise than by either budding or grafting. When you take off a fine rod to get a few buds, the top of it, say five or six joints long, will make the best possible cutting. If the top is very soft cut it away and prepare the cutting as in Fig. 2. A clean cut under the lowest joint, the leaf from that joint and the next joint above it removed, *a*, *b*, a thumb pot with a few small crocks, a mixture half sand and half leaf-mould, pressed in moderately; the cutting thrust in till its base is hard upon the crocks, a bit more compost to fill nearly to the rim, and another pressing to make it tight and firm; a good watering, a cold frame, with bottom of coal ashes, all shut down close, and a mat over to prevent mischief from sunshine, and it will be downright strange if every one so dealt with does not make a promising plant; to be shifted into sixties with proper rose compost, and to be wintered in pit or greenhouse. If your pits and frames are already overstocked, creep in among the currant bushes, level a piece of ground in a shady place, pack the pots together in circles and put a bell-glass, or a hand-light over each lot; give air by degrees and watch them that their new shoots are not attacked by vermin, and you will soon see that there is no magic or mystery in propagating roses, for the million and by the million.

But the millionaire method is yet to be described. Instead of cuttings use buds, and you have in hand the prettiest process in the whole range of practical horticulture. Take a shoot, such as would be chosen as a scion for budding. Have some Pascall's pots prepared with

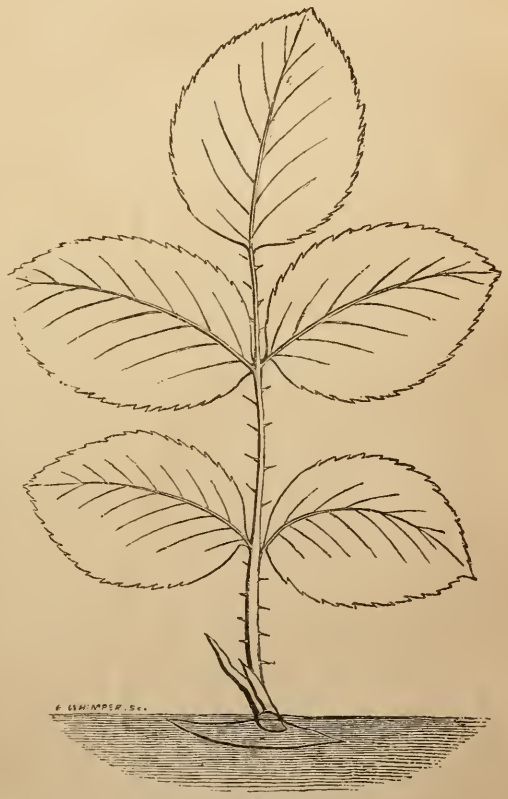


Fig. 3.

crocks, leaf-mould, and sand, and one inch of pure sand on top. Better still, use turfy peat with the same inch of sand on the top. Cut away the best buds, in the same way as if they were to be used for budding, Fig. 1., but let the wood remain and let the leaf remain as here shown in Fig. 3. Plant each of these shields bud upwards, leaf complete, bark just

covered, so that the bud stands up very firm; waste no time; as soon as the pot is filled, so that the leaves just touch all over, give a good sprinkling of water just on the bell-glass, and go on again. The tops of the shoots may be put in quite close together as cuttings, with the two lowest leaves removed, and the wood cut clean under a joint. Put them in Pascall's pots, put on the bell-glasses and very few will fail, *but* they will be a little miffy, and must be watered after potting off in the greenhouse. Same with the eyes, which start in the same way as grape vine eyes, only grapevine eyes have no leaves to help them. Pot them singly into thumbs as soon as they begin to put out white roots from the callus, or you may even pot them as soon as the callus has become definite and firm. Shift none from the first potting till the roots begin to peep out through the crocks, and not even then, if the season is far gone, unless you can give them a shelf in a warm house. It is best to winter these also in a greenhouse. They make beautiful plants, and can be grown to any shape or any size of which the variety is capable. The last lot I struck from eyes in this way were put in an old frame on a great heap of waste fern and moss, full in the sun. A mat was kept over all day and removed at sunset. A week afterwards, the light was tilted to give a little air, and they came wonderful quick and strong, the fern being like a hot-bed. Out of two and twenty pans covered with bell-glasses, all succeeded but one, and that one the ants got into and filled the bell-glass with the *debris* of their mining operations, burying the buds six inches deep. In a cool propagating-house, this sort of work comes in delightfully at this season of the year, and those who have a tiffany-house have all they need, or a Waltonian case, to be used as a cold frame under the front stage of the greenhouse.

SHIRLEY HIBBERD.

SPERGULA PILIFERA.

How is it we hear so little of this horticultural wonder, this imitation of swan's-down in bright and lasting verdure? Are the folks who have grown it thus far afraid to speak? If it has proved a dead failure anywhere why do we not hear of the circumstances? And where it is a proved success why do not the possessors of the swan's-down flooring let us know, that we may take heart and go on planting it as an item of garden luxury? I am so thoroughly satisfied with the growth of my piece this spring that I begin for the first time in my life to regard grass turf as a second or third-rate excellency; and whatever I have said against the Spergula I here unsay, and am prepared for its vindication. The most that I have said against it, perhaps, was a word as to its colour at the turn of the season, when it did look yellow, and sour, and shabby. But what a winter for a plant that had been severely tried from the first, and not so well dealt with as it might have been had I known what I now know respecting it. Not long since, at the kind invitation of Mr. Mongredien, I saw the original lawn at Forest Hill, and learnt from Mr. Summers, "Spergula Summers," the *rationale* of treatment. There is nothing in the way of garden elegancies to beat that piece of Spergula lawn; to talk of Turkey carpets is to use a poor figure; no carpet was ever made by man that took the footfall so softly, gently, soothingly as that, for the foot sinks into it with a springy, elastic feeling without touching the soil at all, for the plant is matted into a thick felt, layer upon layer of successive seasonal growths, and I can imagine no comparison to it but a palliasse of swan's-down.

To obtain such a surfacing must be a work of time, and it is not to be expected that a plant of this kind should show forth all its merits until some few years had elapsed from the date of its being submitted to the public. This sample lawn is on a stubborn clay, on a steep slope, faces the north, and gives its glorious verdure and softness to a spot where grass turf would probably grow coarse and cause a vast deal of trouble to keep it decent. I did wrong in the first instance to use a lot of prime hyacinth compost for my circle; the clay which we have here for a subsoil would have been the very thing for it. Then I did wrong to complain of its colour in the first winter from seedling plants, because, being thin and far apart, the water lodged between them, the frost made ice of the water and punished the plant unduly because it was not thick enough to comfort itself. These spring rains, however, have set the piece growing

at a tremendous rate, and after the roller has been over, it lies as close and smooth as pile velvet. But there is another reason why it was most unreasonable of me to complain. In December last I moved the roses from the thirteen feet circular bed in the centre of the Spergula, took out the stuff eighteen inches deep, carted in peat from Wanstead, and planted the bed with rhododendron species. I put down planks, and made a speech on the inviolability of Spergula pilifera, yet in spite of me the fellows trampled it in some places almost to a paste, and had it been a miffy sort of thing it would have vanished altogether. Yet in spite of the crushing of feet and wheelbarrows during a drenching December week, every scrap that was crushed has started up again like so many vegetable Phœnixes, and every mite of a seedling from self-sown seeds last autumn has survived the winter —and what a winter!—and is now spreading, and the bare earth is scarcely visible between them. Last year's original patches are now a foot across, and the whole circle will soon be densely turfed, and then—what then? Why, it will begin to live on itself like a true moss, and the days of its swan-down luxury will begin. I saw by a piece of the Spergula, which Mr. Summers cut with his knife, that the stuff makes a fibrous felt by the decay of its procumbent stems while a fresh growth goes on above. Thus the felt holds moisture in the driest and hottest weather, and when pressed by the foot sinks with just enough resistance to be pleasant, and make a tired man forget for the time the weight of his body.

To have brought my piece to perfection quickly I should have used established tufts instead of seeds, and it should have had plenty of water the first season. If I am satisfied after having given it so severe a trial, I suppose others will be who are inclined to pet and humour it, and it deserves humouring as much as any plant in cultivation.

I can understand why some hard things have been said about it. The sample at Messrs. Henderson's is no credit to them, and cannot benefit the plant much. This is not said to their discredit, for it is rare that at nurseries time can be given to make a special feature of such a thing, especially if it has to be done on a sudden. Besides, Messrs. Henderson grow it for sale, and the sample is perpetually being cut at, and how can it show its beauties under such circumstances? Mr. Cutbush has a good piece round his fine plant of Wellingtonia gigantea, and some day the Crystal Palace gardens will show it in sufficient perfection to set people crazy after it.

From eighteen months' constant observation, and having taken the care of my piece into my own hands, prohibiting any other hand from tending it, I can safely say that in one season it will prove itself to be a right good thing; and after that it will begin to assume its high character, as it does at Forest Hill after a growth of six or seven years. This too is just the proper time to plant or sow. Self-sown plants of last July in my piece are now good tufts, therefore seed sown now, pricked out, and left in the kitchen garden on a reserve plot will be fine for the making of a lawn next spring. It grows quickest in a loose soil; but to make a lasting turf is best on clay, and the more roller and trampling the better. Tufts put in now and kept safe in case of drought will have the benefit of all the autumn rains, and get their roots deep before the winter comes. But let no one imagine that a perfect lawn can be obtained the first season. Like good claret or Scotch ale it acquires nobility with age, and if I stay here till I am gray-headed I suppose I may sleep in the summer time on my sample of emerald swan's-down. Let those who doubt all this go first to Forest Hill and see what has been done by the master of Spergula, Mr. Summers. Then let them get a pinch of seed or a single tuft of plant and grow it in a pot or in a nook of a rockery and wait. Its continuous lateral growth and exquisite freshness of colour will convince them that here is a plant that may be put to fifty different uses and be good and profitable in all.

If I were laying out a geometric garden, and especially if in sunk panels, the groundwork should be Spergula. If I wanted a close verge to run away in soft lines, neat and close, and easily kept to its proper boundary, I would not have grass if Spergula cost a shilling an inch. To surface the ground in a rootery or a rockery, or on a turf terrace, Spergula and patience, and then no fear of summer drought to spoil the greenness, for it sends its roots down as if it knew the shortest route to New Zealand through the centre of the earth, and if you take up a year-old tuft you may dig deep to find the lowest of its spongioles. Where the roots of Mr. Mongredien's piece are gone to might help us to some conclusions respecting the internal heat of the earth.

But here comes a question. Is Spergula pilifera the only plant that will do it? What is that little thing that comes in tufts in old peat beds, and very often in pots containing peat or peaty mixtures where the drainage is a little wrong? Is it not Sagina procumbens, that we root out and fling on the muck heap in ignorance of its capabilities? That makes charming tufts on a bank, and some day it may prove to be a lawn plant for sour soils and worn-out peat, as Spergula pilifera is for the stubborn clay. Then in my piece I can find several tufts of Spergula truly phenogamous, has the general appearance of a moss. Its habit is to grow in close dense tufts, which never rise more than an inch above the ground, but by lateral extension, form a close elastic felt, which not only bears the foot, but the roller, and so it fulfils the requisite conditions of a turf which requires no mowing, and has a refreshing green hue all the year round. The drawing, of which the engraving is a copy, was made in July last year, when my piece of Spergula was in flower. It is represented in flower, in order to enable amateurs to distinguish

SPERGULA PILIFERA.

subulata, which is of another tint of green to pilifera, and for all I know as good a thing if as largely dealt with. Then there is Spergula nodosa, of more robust growth, but still of a decidedly turf-making character. How many such plants are there? the true plant from another with which it has been confounded, and which will probably be sent out by some of the trade under the same name. This other plant is Sagina procumbens, which also grows in dense tufts of a deeper and bluer tint of

SAGINA PROCUMBENS.

Will Dr. Lindley come to the rescue with a handful of botanical distinctions, and will the Horticultural Society take all these promising tufty plants in hand and settle their values *inter se*, and as to their several adaptabilities for this or that soil, and this or that climate? It will be seen from the engraving that Spergula pilifera is a plant of humble growth, and though green; but instead of producing a distinct white salver-shaped blossom, has a gray blossom, in which the calyx is larger than the corolla, whereas in true Spergula, the corolla is snowy white, larger than the calyx, and distinctly held up above the green turf. There are other points of difference discernible by those who have no botanical knowledge, as will be seen

by reference to the cuts. In Sagina, the parts of the flower are in *fours;* in Spergula, they are in *fives;* that is to say, Sagina has four small inconspicuous gray petals, and four larger green sepals; but Spergula has five white petals, and five smaller green sepals. In Spergula, the apex of the leaf terminates in an erect bristle; but in Sagina it has a blunt point. When grown in a greenhouse, Spergula pilifera alters its character, and instead of biting close to the soil, becomes attenuated, and sprawls over the sides of the pot in a thin, weakly, weedy style of growth; whereas Sagina procumbens undergoes no perceptible change under glass, but continues procumbent, and is, when out of bloom, a very neat moss-like plant, and may be used as a surfacing to Wardian cases, and among the clefts of rock-work. Another superiority in the growth of Spergula is its sending down a tap root, which, in a good loamy soil, penetrates to a depth of three feet, and thus, when the plant is established, it rarely suffers from drought, and is of the same bright green when grass turf is quite burnt up. On the other hand, Sagina procumbens does not penetrate more than six inches deep, and the roots branch close under the surface, and are consequently soon affected by drought during hot weather. I need not say that Mr. Summers, of the Crystal Palace nursery, sends out none but the true Spergula, propagated from the original lawn at Forest Hill. Meanwhile, let those who dream about Spergula pilifera give up dreaming for action, and instead of new patent lawn mowers, let ingenious inventors turn their attention to the production of brooms light as ostrich plumes to sweep the soft surface of the emerald swan's-down.

S. H.

EARLY-FLOWERING HERBACEOUS PLANTS.

The present season has been one of the most trying and unsatisfactory to flower-gardeners that has ever been known. At the moment I am writing, plants that have been bedded out three weeks or a month since have become smaller instead of growing larger, and many have perished altogether. Verbenas, heliotropes, lantanas, and petunias are looking as black as one's hat; and it will take at least three weeks of the most kindly and genial weather to bring into good growing condition plants that have been planted out. Those persons may congratulate themselves who have retained their plants in frames, etc., and have yet to plant out; it will require a few days of thoroughly dry weather before the earth will be in a fit state to receive them. I have been planting out a few dozens of various things to-day, or rather pasting them in, for the earth was not sufficiently dry anywhere to close them in with nice pulverized soil, which is so essential to them, and which enables them to make a good start. My object in writing this paper is to ask, what would our gardens be without the assistance of our early-flowering herbaceous plants in such a season as this, and to name a few of the plants most desirable for producing an effect until "bedding stuff," as it is technically called, begins to display its beauties? Now, first, those gardens which do not possess a pretty good supply of such things as Arabis alpina, yellow Alyssum, white candytuft (shrubby), Cheiranthus Marshallii, wallflowers (single and double), Phlox verna, cetacea, subulata, etc., are a perfect blank, and must remain so for some time to come. I have never been more persuaded of the importance of cultivating plants of this kind in quantity for effect than I am at this moment; some gardens that I can name have been a perfect galaxy of blossom for some time past, with little more than the ingredients of the above list. The present season, also, has been most favourable for the development and long continuance in bloom of early tulips, and they have been in several places within the sphere of my observation most effective. Late tulips, also, have been very useful in gardens sheltered from the immoderate winds.

In addition to the above-named, a few perennials may be mentioned as helping to produce a rich display of colour at this intermediate season, such as Delphinum formosum, elatum, grandiflorum, sinensis, etc., just coming into bloom; Anchusa Italica (splendid blue), Papaver, Armeniacum and bracteatum (scarlet), and P. cambricum (yellow); pœonies of various colours; ranunculus aconitifolia, white, and one of the very best perennials in cultivation; the old-fashioned bachelor's button, yellow; stocks, white and red; double daisies, in various colours, are most effective when well cultivated; American cowslip, lilac and white, not near so much

cultivated as it should be; and many other things of similar habit and season of blooming, to which the mention of the foregoing will be a sufficient guide. Then there are pansies, which, after this excessive wet, are flowering fine, but are growing rather too vigorously; blue-bells, and the white and pink varieties, most effective of Saponaria oxymoides, a lovely trailing plant; Aubrietia purpurea, a delightful plant, producing a rich carpet of purple almost through the summer; but I am afraid you will think my pen is running wild, for I could extend the list indefinitely from the numberless plants that come to my recollection. Before I quite close up, let me say a word in favour of the old-fashioned olive-scented tulip, which, with its rich scarlet and orange flowers, is one of the most effective plants wherever it is introduced, and stands the weather better than almost any other I know of.

One other reason why I send you this paper at this time is because the season has arrived for beginning to propagate many of these things for the next season, so that they may become strong and flower vigorously; Alyssum, candytuft, double wallflowers, etc., from cuttings; single wallflowers, Delphinum, etc., from seed; Arabis, Aubretia, etc., by division of the roots. Though a multitude of cares press upon the gardener's attention at the present moment, provision for the future must not be forgotten. I have omitted to say a word in favour of the single rocket, which, simple as it is, is a most effective plant in masses at the present moment, in its white and pink varieties.

W. Chitty.

Stamford Hill, June 11, 1860.

CULTURE OF LAVENDER FOR DISTILLATION.

Lavandula vera is a native of Persia, the Canaries, Barbary, and the south of Europe, from the last of which it is said to have been first brought to England, where, finding a congenial soil, and being carefully cultivated, it yields an essential oil or otto, very far superior to that produced from it in its original places of growth. The peculiar qualities of most plants are susceptible of change, and in many instances of improvement, by cultivation, but none, perhaps, more so than this. It is not even in all parts of this country that it can be grown with success, and for many years it was supposed that it would only come to perfection in the neighbourhood of Mitcham, in Surrey; but it has, within the last half century, been found that a soil and climate still more suited to its growth exists near Hitchin, in Hertfordshire. There the finest otto is now produced from its flowers by Mr. S. Perks, from whom we have received the following account of the mode of its cultivation and treatment:—"The ground for a plantation of lavender should not be surrounded by high hedges, or in the immediate neighbourhood of any trees, which tend to retain too much moisture upon the plants, and thus cause the spring frost to cut off the flowers, but should be as much exposed to the sun as possible. In October, a large number of slips from the old plants are placed in previously prepared beds, where they are allowed to remain for twelve months, during which time they are carefully clipped. When a year old, they are planted out (in fine weather) in rows four feet apart, with a space of three feet from plant to plant, but are not allowed to flower, the clipping being still continued in order to strengthen them, which object is further promoted by a regular supply of short manure to the roots. If this cannot be procured in sufficient quantity, its place may be supplied by superphosphate of lime, which greatly improves the appearance of the plant, and causes it also to produce finer flowers. The usual mode of procuring the otto is to put the flowers and stalks into a still with sufficient water, and thus draw off the oil; but I have found by experiment that very little is produced from the stalks, and that little of inferior quality. My present practice is, therefore, to employ only the flowers which are stripped from the stalks previously to the distillation; and though this is necessarily a more expensive way of proceeding, the superior quality of the product enhances its value in an equal degree, whilst the loss in quantity is very small. The aroma of the otto produced by this process is so far superior to that of any other, as to be at once perceptible to every one accustomed to the use of an inferior kind, and even to those who may be said to have an entirely uneducated sense of smelling. It is, in fact, a pure otto, and when suitably combined with other appropriate materials, produces 'Lavender Water' of the most exquisite fragrance that has hitherto been made."—*Piesse's Art of Perfumery, 2nd Edition.*

REMINDERS FOR JULY.

Azaleas to be prepared for ripening their wood by giving more air. Put out the earliest in a shady place.

Camellias, treat the same as azaleas, and shift any that require it. Their roots may be refreshed without giving larger pots by turning out the ball, removing some of the stuff from it, and making it up again with fresh compost. Pot firm.

Carnations are gross in some places through having such an excess of rain. Protect the flowers from wet, get on with piping and layering without loss of time.

Cinerarias to be propagated from suckers, put in round the sides of pots in very sandy compost, and keep close for a week. Sow for seedling plants.

Conservatory to have plenty of air night and day, and abundance of water to all growing plants, overhead as well as at the roots. Neglect of watering now will hereafter show sad results, especially among soft wooded and liliaceous plants.

Cucumbers, keep liberally watered, and train, and thin as necessary to prevent crowding. They will take almost any quantity of liquid manure, if in a good state at the roots.

Dahlias must be humoured as to disbudding and tying, because every variety has its own particular style of growth.

Evergreens and shrubs of the free growing kinds may by propagated from this time to the end of August; cuttings put in in a shady place will root immediately. Prepare now to plant evergreens, which move well from the end of July to the end of September. In new ground this is the best season to plant them, but in established gardens the places intended for them are generally occupied with summer flowers.

Fruit Garden.—Tie in and train as needful, and use the syringe to wall trees if the weather should be dry, as we expect it will be. Lay strawberry runners in small pots with a stone on each to root them. Mulch raspberries with grass mowings or half rotten dung to strengthen the new canes before they cease growing.

Kitchen Garden.—Sow successional crops of endive, lettuce, spinach, turnip radish, peas, French beans. Also main crop of winter turnip. Plant out winter greens, broccolis, and cauliflowers. Make the last sowing of Statholder or Mitchell's hardy cauliflower.

Pelargoniums newly cut down to be kept pretty dry till they break, then to be potted in small pots.

Vines will profit by liquid manure; keep the good bunches shaded by tying the laterals over where necessary.

TO CORRESPONDENTS.

"The Gardening Book of Annuals."—"We wrote you briefly on the 2nd inst., expressing our surprise and regret that the name of the author or book from which the article on annuals was transferred to our 'Amateur's Guide' had been omitted. It is our invariable custom (as you truly say in the present number of the Floral World) to refer distinctly to the works from which we extract, having no desire whatever to claim any merit for authorship, but simply to make our 'Amateur's Guide' as useful as possible. With such references, our quotations materially increase the sale of the original works; and we had not observed, until it was pointed out to us by the author, that we had omitted to do so in this one instance. Neither were we aware that the author of 'The Gardening Book of Annuals' was engaged in the nursery or seed trade; but, being apprised of this, we the more regret this accidental omission, both for the interests of Mr. Thompson and of yourself also, who, we are sure, would be scrupulously desirous of giving 'honour to whom honour' is due. We have by this post written to Mr. Thompson, explaining these circumstances and expressing our regret, trusting the same will be satisfactory to him and to you."—Sutton and Sons, *Reading*.

Clianthus Dampieri.—*J. M., Greenock.*—The best plant of this fine species we have yet seen is the one at Messrs. Henderson's nursery, Wellington Road, St. John's Wood. It is in a narrow span-roofed house, ventilated the whole length of the ridge, as well as by the front-sashes, and is trained out so as to cover not less than sixteen square feet of surface, and the whole densely covered with the magnificent blooms of crimson with black blotch. To produce a fine plant, the cultivator must manage to grow it quick, but with as little artificial heat as possible. The soil should be the turfiest and freshest peat, clean yellow loam from a turf stack, that was well frozen and pulverized last winter, old chippy cow-dung, silver-sand, and charcoal of the size of hazel-nuts, one part of each, with all the dust, the whole to be well mixed and broken but not sifted. In this mixture, with plenty of water, a young plant will make root rapidly, and to help it, splash water about pretty freely on the floor of the house every night, besides giving the plant a sprinkle. Be careful not to give too much water at the roots at first or the stuff will get sour. If grown in a pot, give a good shift, when a shift is required, say from a three-inch pot to a six-inch and not less; but it will make a finer plant in the free soil of a conservatory border. The great enemy of all the species of Clianthus is red spider, which in a dry house appears on these plants first, even before attacking vines, and there is no method so certain to keep spider away as growing the plant quick, and sustaining its vigour when in flower. When starved, it is the most miserable thing to have to do with; when well treated, it cannot be surpassed. It is very nearly hardy, and in some of the southern counties stands

out all winter safely, but at Greenock it must have greenhouse temperature.

GREENHOUSE CONSTRUCTION.—*C. J. F.*—As your wish is simply to have a house in which to "keep half-hardy plants in winter, and have only a north-east aspect with plenty of light," you may build with perfect safety, provided you heat it with a flue, or a hot-water pipe from a small gas-boiler in an adjoining room or shed, according as the situation is near to or away from the dwelling. You would be sure to stock such a house with geraniums in autumn, and you would be sure to lose them if you trusted only to a hot bottle. A Waltonian case would keep out frost, but except when you were using it for propagating, you would be very likely to neglect to light it when most wanted. A small furnace and flue would keep all safe at least expense and trouble. You could keep cytisuses, fuchsias, camellias, and plants of the same degree of hardiness, in such a house without a flue by matting up the sides and roof well during frosty weather and keeping the house quite dry at the same time.

POPULAR PLANTS.—*J. Kutter.*—It is not so easy as you suppose to give the scientific names of popular plants, from merely popular descriptions. For instance, "Cytisus, yellow flowering, and hawked about the streets at one shilling a pot," may be Cytisus racemosus, or Cytisus Atlecana. The Creeping Jenny is Lysimachia nummularia, also known as Money-wort. Spotted Leopard may or may not mean Doronicum Austriacum. "Scarlet Gem" and "Tosia," are genuine hawkers' terms, which to us have no meaning.

PROPAGATION OF CLEMATIS.—*C. S.*—The best way to propagate Clematis cœrulea, is to select a vigorous shoot and lay it down. Let it spring up again, and then nick with a sharp knife the back of every joint, and peg each joint into a pot filled with a good potting compost, and plunge each pot to the rim. Every joint will thus make a plant, and every such plant will be better than those from layers made in the ordinary way.

FORGET-ME-NOT.—*F. D. Parker.*—The best way to bloom this in February would be to take cuttings now, and grow them into good sized plants in a cool frame. Use very rich soil after they have made good roots, and give plenty of water till the middle of September; then give them no more than will just keep them green and fresh. In December bring a few into a house, kept at about 50°, and in January bring in a few more, and they will bloom on all the points of their new growth.

HOTHOUSES FOR THE MILLION.—*J. S.*—The best specimen of the newly-invented hothouses for the million is that put up by Mr. Heremann, at Sydenham, which is now filled with orchard-house trees in the finest possible condition. We shall have an opportunity shortly of reporting upon them. You do not give your address, and it is, therefore, impossible for us to advise you of the best place from which to obtain silver-sand. London gardeners are supplied with the best Reigate sand at the rate of eighteen pence per bushel.

ROSES MILDEWED.—*J. P.*—The leaves sent are touched with a growth of minute fungus. Nearly all the out-door roses in the kingdom are so just now, through the long continuance of cold wet weather. The first week of hot sun, which perhaps may come before these lines are printed, will probably put them to rights. It would be as well, however, to dust them with flowers of sulphur when they are damp with rain or dew.

NORTH AMERICAN FERNS.—It will be seen by an advertisement in this month's issue that our friend, Mr. Chitty, is about to offer by auction his very interesting collection of American and British ferns. We call attention to this sale because Mr. Chitty has had facilities for gathering together species not generally in cultivation.

CATALOGUES AND BOOKS RECEIVED.—We have much pleasure in reminding our friends that the first volume of "Recreative Science" is completed. It contains about 200 articles on practical science, and among them are many that embrace out-door subjects akin to horticulture, such as aquaria, fern-cases, classification of plants, and the observation of Nature. The work is profusely illustrated, and among the contributors are many of the names most eminent in scientific observation and experiment. Considering the beauty of the typography and the excellence of the woodcuts, it is a cheap drawing-room volume at 7*s.* 6*d.*—"List of Soft-wooded, Bedding, and other Plants, sold by E. G. Henderson and Son, Wellington Nurseries, St. John's Wood, N.W." Not overloaded with novelties, nor scanty in lists of good old varieties. In eighty-two pages of closely-printed matter, the several sections embrace all the good things that are well known, and many good things that will be known. —"New Roses for 1860, grown by C. Noble, Bagshot." A short list of the best, to which are added the most desirable of the old varieties, all at reasonable prices.

THE CLIMATE OF TORQUAY.—In your number for June, 1859 (p. 133), you inserted a letter with the names of the shrubs that had stood out the previous winters in Torquay. It may be interesting to some of your readers to know the results of the last winter, it being very severe. First, my only great loss are two large Acacia armatas, eight feet high; both were quite killed in December, after being out five years, unsheltered, the largest I know. The Bottle-brush (Beaufortia splendens), although standing next to the Acacia armatas, was very little damaged, and is now coming into bloom. The Habrothamnus, which was slightly covered with matting, was cut to the ground, but, to my surprise, is now sprouting from the root. The Chanthus (which is nine feet high) was much damaged in the lower branches, and nearly all the bloom destroyed. The Eccremocarpus scabra stood the winter without shelter; many of the thick-leaved veronicas were damaged, and a few killed. The common Begonia, of which I enclose a leaf, not knowing the name, has been in the ground without shelter all the winter. I send leaves of fern, male and female,—what is the *name?* I was at Bishopstoke a week or two since, and went over the Dean of Winchester's pleasure grounds, and noticed that the Araucaria had been much injured, and, I think, dying. The lower branches have been cut off, and those left look very badly. This was the second largest in England, I believe. How is the one at Dropmore?—*A.B.S., Torquay.* [The Begonia is discolor, an old but valuable variety, which will flourish under ordinary window treatment. The fern is Doodia caudata, from New Zealand, a pretty thing requiring greenhouse culture.]

VARIOUS.—*A. S.*—The "Town Garden" will supply you with the best information on window plants.—*C. S.*—The grass is Cynosurus echinatus, of no agricultural value.—*E. D.*—We recommend you to take the "Illustrated Bouquet," the "Floral Magazine," "L'Illustration Horticole," "Flore des Serres," the "Botanical Magazine," and the "Gardener's Chronicle." Among them all, you may perhaps occasionally find a trifle of information, but none of the editors will prepare their numbers to your dictation, or care very much if "Ensign Smith withdraws his custom."

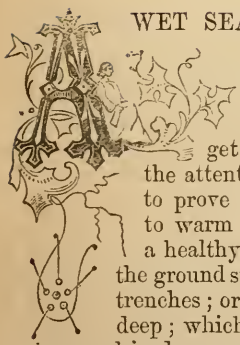
THE

FLORAL WORLD

AND

GARDEN GUIDE.

AUGUST, 1860.



WET SEASON and a deficiency of sun-heat demand from us the fullest exercise of skill to turn to the best account the circumstances at our command in the various departments of horticulture. In soils well drained, vegetation will suffer less than in cold clays, which get water-logged; and wherever the drainage has not had the attention it requires, the example of 1860 ought to suffice to prove that efficient drainage is a matter of first importance to warm and aërate the subsoil, and enable plants to maintain a healthy root-action. Many a place where the water holds in the ground stubbornly might be improved instanter by digging a few trenches; or, better still, a few well-shaped holes, ten or twelve feet deep; which, if shored up with stout elm boards, would last a lifetime, and in dry seasons afford a supply of water for irrigation. In planting out winter-stock in the kitchen-garden, an increased temperature and some immunity from wet and frost may be secured by throwing the earth up in banks, and planting on them. Even the north sides of such banks will be better than the level ground where the soil is retentive of moisture, and the alleys will help to carry the water away to the lowest levels and outlets. There will be a probability of many severe losses this season, unless every possible precaution is taken to get stored up in the soil as much heat as can be got from the flickering sunbeams. It was the gorged state of the sap-vessels through long-continued rains which caused the decimation of vegetable crops in the sudden and severe frost of last October. In low, cold grounds the plants literally melted into a pulp; in high, dry soils they were unharmed. Whatever the situation and soil to be dealt with, it is always possible to create a lower level for the reception of superfluous moisture; and we advise those who have to do with soils unfortunately placed as to getting rid of water, to sacrifice a few square yards and a few days' work, and even a few pounds' worth of timber, or puddling or cementing, to relieve the cultivated plots of the excessive amount of moisture with which they are now saturated. Among plantations of fruit it will be well to cut away a good deal of the rank growth of

the season where the trees have been unusually luxurious. It is only from well-ripened wood that we can expect crops next year, and every attention should be given to get well-placed shoots as thoroughly ripened as possible with whatever sunshine may be vouchsafed to us during August and September. The dwarf bushes now in fashion are better able to resist such ungenial influences than the old-fashioned orchard-trees, and simply lifting them in October will do much to check over-luxuriance and compel them to complete rest, so that they will be better able to endure whatever trials the next winter and spring may have in store for them. In plant-houses of all kinds it will be well, if the present ungenial weather continues, to use a little extra fire-heat. Cold and damp are the parents of mildew, extravasations of sap, morbid growths, disease, and weakness. Plants in houses that have been shaded with tiffany are in many cases the worse for it, and soft-wooded plants are getting into that gross condition which renders them all the more difficult to manage during winter. Before this is printed, the weather may be equal to the averages of the season, and these hints be of no importance whatever. But it does seem that the season, which began disastrously, will end in gloom and disappointment. We cannot alter the weather, but we may turn aside from ordinary routine, and adapt the means at our command, so as in some measure to counteract the evils that threaten us. In horticulture, we are happily unacquainted with red-tape and circumlocution; let the practitioners of the art now do their utmost to secure the safety of the subjects under their care, and avert as far as possible the threats of disease and famine.

In compliance with oft-repeated requests, we publish on another page a set of rules for the guidance of those who are engaged in the formation of horticultural societies. We have selected those of the newly-formed and flourishing society of Sydenham, because we know that in their preparation the utmost care was taken by Mr. W. Thompson, one of the honorary secretaries, who collated them from the rules of a number of old established societies in order that no good feature should be omitted. These rules were adopted by the society at the meeting held on the evening of the 7th of June, previous to the delivery of Mr. Hibberd's lecture on the cultivation of the rose, having been previously read and considered in committee, and at successive meetings of the members. Some of our friends, who write from distant places, will not need so extensive a constitution as the one here provided, and many will let the museum and library clauses pass as superfluous. We are not altogether sure that a museum can everywhere be got up satisfactorily, but we do feel sure that every society should have a lending library of horticultural works, as one of the leading advantages of membership, and to sustain the interest of the association during the season when flower-shows are impossible and flowers out of fashion. Of course complete sets of the Floral World should be first thought of in setting up a library. We openly adopt the old motto—"Nothing like leather."

NOTES OF THE MONTH.

Highgate Horticultural and Floricultural Society, June 27th.—When we see anything of merit that we think will be of general interest to our readers, we make some note of it; and as the exhibition of the new society at Highgate proved one of the best local shows we have visited this season, it is with much pleasure we give a short account of its general features. With regard to the Highgate exhibition, there are peculiarities which we regret are not general. The wealthy amateurs and cottagers have classes devoted to them apart from the gardeners' classes; and in these classes there are such prizes as will stimulate every member, and give a zest to the delightful pursuit of Horticulture. The first exhibition of this society was held in Fitzroy Park, Highgate, June 27th, adjoining the residence of Lady Dufferin, who kindly threw open her grounds for the promenade of the visitors. At two o'clock, the exhibition was opened to the subscribers and their friends, when a numerous and highly fashionable company soon assembled, and continued to fill the tent during the day. In consequence of the late unpropitious weather, only a moderate show was expected, but it gives us great pleasure to state, that through the exertions of the members, the exhibition was decidedly of the best description; for never since we have had the pleasure of attending these periodical displays has it been our lot to witness a richer or more varied collection of flowers and plants; and, in addition to the numerous specimens exhibited, the stages presented some of the rarest and most beautiful florists' varieties and ornamental foliaged plants. Among the subjects which to a great extent determine the merit of all exhibitions, the stove and greenhouse plants were not quite equal to what we have seen, but the ferns were exceedingly well grown, and the fuchsias were fine specimens, not too tall, but bushy and full of bloom; gloxinias, pelargoniums, and cacti were in fine condition, and achimenes also; plants with ornamental foliage were contributed largely, and in excellent condition, and there were some pretty devices in flowers. The first prize for six stove and greenhouse plants was awarded to Mr. Young, gardener to R. Barclay, Esq. The first prize for six azaleas was awarded to Mr. Hutt, gardener to Miss Burdett Coutts. Mr. Young was also first in cacti; one among them named *Youngii*, which we suppose to be a seedling of his own, is an admirably built flower, and most vividly coloured. In the class for fine foliaged plants there was brisk competition. Mr. Taylor, gardener to J. Yates, Esq., was first, with Cycas revoluta, Encephatartos (Zamia) latifolia, Rhapis flabelliformis, Chamærops humilis, very fine; Littæa juncea, and Macrozamia spiralis. Mr. Biggs, gardener to J. H. Waterlow, Esq., was second, with Cissus discolor, in most beautiful condition and admirably trained; Maranta zebrina, Begonia Rex, Farfugium grande, the best we have seen this season; Xanthosoma violaceum, and a Colocasia. Mr. Hutt, gardener to Miss Burdett Coutts, was third, with a very pretty lot. In exotic ferns, Mr. Biggs and Mr. Taylor were so even that first prizes were given to both, and the second prize to Mr. Hutt. Mr. Biggs' ferns were Adiantum formosum, Phlebodium aureum, Adiantum trapeziforme, Nephrolepis Davalloides, a difficult thing to do; Adiantum cuneatum, and Gymnogramma ochracea, most beautiful. Mr. Taylor's six were Stenochlæna scandens, Gymnogramma ochracea, Adiantum formosum, Nephrolepis exaltata, Davallia bullata, and Adiantum trapeziforme. For the best single specimen plant in flower, Mr. Young was first, with Fuchsia Venus de Medici, and Mr. Taylor second, with Erythrina Crista-galli. Pelargoniums

were only second rate as to size and training, but they were mostly well bloomed; amongst them Cloth of Silver was conspicuous for its chastity of colour and excellent habit. Mr. Parmenter, gardener to H. Taylor, Esq., took first prize for six pelargoniums; Mr. Smith, gardener to S. Hickson, Esq., second; Mr. Binney, gardener to W. H. Bodkin, Esq., third. Mr. Smith was first in fancies. Fuchsias were good. Mr. Young was first, with Tristram Shandy, Souvenir de Chiswick, Queen of Hanover, Venus de Medici, Snowball, and Vanguard; Mr. Binney was second. There were two lots of gloxinias of very even growth. Mr. Biggs being first with Adamus oculata, Deecke Hobbe, Frederick Lenning, Willsoni, Carl Wolfarth, and Seedling; Mr. Young second, with Noblesse, Princess of Prussia, Mars cerulens, Magnet, Agar, and Speciosa major. For six achimenes, Mr. Young was first, with Sir Trehern Thomas, Edmond Bossier, Longiflora alba, Tugwelliana, Ambroise Verschaffelt, and Baumannii hirsuta; Mr. Biggs second, with Rosea elegans, Chirita, longiflora, Sir Trehern Thomas, grandiflora, and coccinea. Mr. Young's plants were evenly in bloom, and Ambroise Verschaffelt was in perfection; otherwise his plants were sticky and leafless. Mr. Biggs' plants were in good foliage, but wanted another week to bring them out, and one was only just beginning to show colour. There were some good boxes of cut roses, some creditable fruit, and excellent collections of vegetables. The first prize for a device in flowers was awarded to Mr. Hill, and the second to Mr. Biggs. The cottagers' productions were excellent, and very tastefully displayed. We must not forget the praise due to Mr. James Cutbush, under whose directions the tent was arranged with remarkable good taste, and who also contributed largely without competing. The unflinching exertions of Mr. J. Ward, the secretary of the society, also call for special mention. We visited the exhibition *incog.*, and we can say that no one could have shown more cordiality and kindness in affording accommodation and information. The band of the 2nd Life Guards was in attendance, and performed some of the best pieces of music, which added greatly to the pleasures of the day. The next exhibition of this society will take place on the 18th of September.

Brixton and Streatham Floricultural Society, June 28th.—On the occasion of Mr. Hibberd's lecture on the cultivation of the rose, the members made a very good floral display. The plants and flowers were arranged on a long table right and left of the chair, and on the chairman's table was a superb collection of cut roses, consisting of twelve distinct kinds, contributed by Mr. Monk, gardener to C. J. Heath, Esq., Balham Hill, the principal of which were grown by Mr. Elstone. On the long table was a good stand of twelve bunches of roses from Mr. Western; also a stand of twelve bunches from Mr. Webb; twelve single blooms from Mr. Brayer; and six from Mr. Faulkener. Mr. Harper contributed a stand of mixed cut flowers, a few well-grown specimen ferns, a pair of fuchsias, and some stove plants. Mr. Webb sent a pair of fuchsias; Mr. Merridue a splendid Erica Cavendishii, some good gloxinias, and eight specimen geraniums. Mr. Monk added as a novelty a pan of Spergula pilifera, and Mr. Glover sent an excellent dish of grapes.

Finchley, Friern Barnet, and Muswell Hill Society, July 12th.—This was the first exhibition of a newly-formed society, and was held in the picturesque and well-kept grounds of J. H. Lermitte, Esq., East End, Finchley. The show was held in a large marquee, and the contributions were admirably staged for effect. The several classes were better filled in than is usually the case at local shows. At the entrance to the marquee was a clever device in flowers by J. Tanqueray, Esq., of Hendon, for which an extra prize was awarded. There were also some good boxes of cut flowers from J. Ewart, Esq.; a very pretty collection of ornamental foliaged and flowering plants, and cut flowers, from Messrs. Cutbush, of Highgate; a similar but smaller collection from W. Connell, Esq., of Barnet. Some

begonias from J. Ewart, Esq., were much admired. Among the fuchsias was a new one, called Garibaldi, which shows a promise of future excellence. There were two good devices in flowers besides the one at the entrance; one was from Mr. Sharp, gardener to T. Cubitt, Esq., of Muswell Hill, the other from Mr. C. Batson. J. R. Butler, Esq., took the first prize for stove and greenhouse plants; G. Pouncey, Esq., first prize for geraniums and first for fuchsias; Mr. J. Duckworth, first and second prizes for geraniums; J. H. Reuton, Esq., first in cucumbers, second in fuchsias; E. Plunkett, Esq., first for peaches; G. Attenborough, Esq., first for strawberries, which were well coloured, and of even shape and substance; Mr. Franklin first for strawberries in the next class. Mr. Hutt, gardener to Miss Burdett Coutts, exhibited some good pines. The generous proprietor of the grounds assisted, with his own collection of furnishing plants, in rendering the exhibition complete. Mr. Lermitte's variegated Ananas and other ornamental foliage plants obtained for his intelligent gardener many a tribute of highest praise. Mr. Kay's grapes deserve a word; they were prime bunches.

Gardeners' Royal Benevolent Institution, June 27th.—The seventeenth anniversary festival of this noble institution was held at the London Tavern, the Earl of Carnarvon in the chair. There was a large attendance, a good dinner, and the room was splendidly decorated with plants and cut flowers, supplied for the occasion by Mr. Henderson, of Pine Apple Place, Messrs. E. G. Henderson, of Wellington Road, Mr. Lee, of Hammersmith, Mr. Turner, of Slough, and other friends. In giving the toast of the evening, the noble chairman gave an interesting address on the pursuit of horticulture as one of the useful arts, and as also a refining and civilizing art, which required, as a first essential to its successful prosecution, a quick intelligence and an industrious hand. He ably advocated the claims of the charity, which gave pensions of £16 to men, and £12 to women. There were now forty-nine on the list, namely forty-one men and eight women. J. E. C. Koch, Esq., proposed the health of the noble chairman, who in reply proposed the health of Mr. Wrench. His lordship then gave the health of Mr. Cutler, the secretary, who, in responding, said the subscriptions amounted to upwards of £300. Mr. Spencer's health was then drunk, and a few other complimentary toasts honoured, and his lordship then vacated the chair, which was occupied for the remainder of the evening by Mr. Koch.

Horticultural Society, June 28th.—At the meeting of the Floral Committee some seedling pelargoniums were exhibited by Mr. Turner; two of them, named respectively Perdita (Foster) and Arabella Goddard, were awarded first-class certificates. Mr. Beck's seedling Modesty was commended. It is white, with a crimson blotch on the upper petals. Mr. Standish sent Dracæna indivisa, for which a first-class certificate was awarded. Messrs. Stansfield sent a new variety of Athyrium filix-fœmina, called plumosum, also awarded first-class certificate. Labels of commendation were awarded to Messrs. Carter for a white variety of Gilia achillæfolia; to Mr. Barnes for Azalea Magnet, a large pale rose-coloured flower; to Mr. G. Smith for Verbena Fairest of the Fair, and Calceolaria Canariensis. Messrs. Milne, of Vauxhall Nursery, sent some of their new breed of erect-flowering Gloxinias, which were much admired. July 12th.—At this meeting of the Floral Committee, first-class certificates were awarded to Mr. Sim, of Foot's Cray, for Lastrea deltoidea, a very distinct West Indian fern, and Nephrodium molle, var. polydactylum, a new variety raised by him. Mr. Sim also showed Gleichenia furcata, rupestris, and semivestita, for which first-class certificates were awarded. A new Bornean Cypripedium, called Dayanum, from Mr. Stone, gardener to J. Day, Esq., of Tottenham, was commended. Messrs. Milne exhibited Gloxinia Lady Willoughby, a white and rose erect-flowering variety. Mr. Cole, of St. Albans, sent some new calceolarias, and Messrs. Fraser, of Lea Bridge, had a new delphinium, called Beauty, an intense blue, with white centre.

Royal Botanic, July 4th.—This was the concluding show of the season

and was in every sense good and well attended. Mr. Whitbread, gardener to H. Collyer, Esq., took the lead in the class for sixteen stove and greenhouse plants, with large specimens in fine condition. Mr. May, gardener to J. Spode, Esq., followed, with Mr. Rhodes to bring up the rear. Among Mr. May's plants was Statice imbricata, a most beautiful conservatory plant, which we recommend to cultivators. Messrs. Green, Baxendine, Carson, and Kail competed in the class for ten stove and greenhouse plants. Amongst the contributions were Stephanotis floribunda, admirably done, and Statice Holfordi, covered with grand bunches of blue flowers, with here and there in amongst them a few of a snowy white. The ornamental foliaged plants were numerous and good, but there were no special novelties. Cape heaths were in fine condition; orchids plentiful and mostly well flowered. Mr. Bullen, gardener to Dr. Butler, of Woolwich, deservedly took the first prize. In the class for twelve orchids, Mr. Stone, gardener to J. Day, Esq., of Tottenham, was first. Messrs. Veitch contributed, among new plants, Caladium Veitchii and Wightii, Vaccinium rugosum, and two new gloxinias named Apollo and Jupiter; Mr. Standish sent a new Senecio, from New Zealand; Messrs. Parker and Williams sent Statice profusa, a charming plant for conservatory decoration; and Messrs. Henderson had Gazania splendens, and Dianthus Heddewigi. There was a fine collection of cut roses of the leading show kinds; a charming box of cut ixias from Messrs. Carter; many interesting ferns from Mr. Day, of Tottenham, and Messrs. Baillie, Binney, Woolley, and Jackson. Pelargoniums, calceolarias, and fuchsias were plentiful and good, and there was no lack of fine samples of the fruits of the season.

Grand National Rose Show, Crystal Palace, July 12th.—This was unquestionably the best exhibition of roses ever held in this country—perhaps the best ever held anywhere, at any time, and success attended it from beginning to end. Fortunately the weather, on the day preceding the show, was dull, and the flowers cut better and kept better than would have been the case during scorching sunshine, though on the day of the show the heat was almost equal to the season, and the large awning extended along the length of the exhibition table was of real service as a protector. The flowers were shown on a table two hundred feet long. In the centre was a row of pot plants, miserably small, but in good condition, and well covered with bloom. We should have liked to see, on such an occasion, such plants as were made up into temporary beds with turf and gravel, in the days when Chiswick was the "fortunate isle" to flower-growers. On each side of the table, and extending its whole length, were boxes of cut flowers, and looking at the exhibition lengthwise, it presented a charming spectacle, as the multitudinous tints melted one into the other, and the general rosy hue which resulted from their blending was softened by the fresh green groundwork of the moss with which they were surrounded. The palace was crowded all day, and it was no easy matter to get near the tables after twelve, at which hour, the judges having performed their duty, the public were admitted, and no end of note-books were in use, the holders of them marking down the names of the roses which most attracted them, or which they were then determining to add to their collections. We made most of our own notes before the judges came, and while the stands were being made up, else we should have found it no easy task to give an account of the unequalled collection. For the collection of one hundred varieties, three trusses of each, Mr. Mitchell, of Piltdown Nurseries, Maresfield, Sussex, took the first prize; Messrs. Paul, of Cheshunt, were second; Mr. Hollamby, of Tunbridge Wells, third; and Mr. Cranston, of Hereford, fourth. For fifty varieties, three trusses of each, Mr. Cant, of Colchester, was first; Mr. Hollamby, second; Mr. Tilly, of Bath, third; and Mr. Turner, of Slough, fourth. The following were in Mr. Mitchell's lot, and may serve as a list of the best show roses in cultivation:—

Hybrid Perpetuals.—Abbé Feytal, deep rose, fine form; Alexandrine Bachmeteff,

bright red, large and fine; Anathalie Chautrier, pale rose, very beautiful; Altesse Impériale, crimson shaded and beautifully cupped; Armide, rosy salmon, distinct and good; Anna Alexieff, bright rose, large and beautiful; Ardoisée de Lyon, shaded large crimson; Berceau Impérial, delicate pink, large and full; Baronne Larray, rich pink, large and double; Baronne Prévost, bright rose, very large; Belle de Bourg-la-Reine, a new and promising kind; Caroline de Sansal, large pale flesh; Cardinal Patrizzi, dark and very beautiful; Col. de Rougemont, very large but coarse: Comte de Nanteuil, pale rose; Comtesse Cécile de Chabrillan, pink, beautifully cupped, a really fine rose; Comtesse d'Orléans, blush, large and full; Docteur Ruschpler, rosy pink; Duc d'Ossuna, bright rosy carmine; Duchess of Norfolk, by no means a bad rose; Duchess of Sutherland, Duchesse d'Orleans, fine lavender blush; Duchesse de Polignac, rosy lilac, very large; Ernest Bergemann, pale rose, large and beautiful; Evêque de Nîmes, bright vermillion, compact, and very beautiful; Géant des Batailles; Gen. Jacqueminot, in very fine condition; General Pélissier, lilac rose, cupped, and distinct; Gustave Coraux, shaded crimson; Impératrice des Français, pale flesh; Jacques Lafitte, shaded crimson; Jules Margottin, large and full, a magnificent rose; Lord Raglan, glowing scarlet; La Reine; Léon des Combats, dark crimson, beautiful; Louis Chaix, bright red, shaded with crimson, but not in first-rate condition; Louise Odier, fine bright rose; L'Enfant du Mont Carmel, shaded crimson; Mignard, shaded rose, very beautiful; Madame Rivers, blush, a splendid variety; Madame Ducher, rosy pink, very compact; Madame Domage, very beautiful, glossy rose; Madame Place, bright pink; Madame Vidot, a fine variety, very like M. Rivers; Madame Masson, deep crimson; Madame Schmidt, rosy pink, large and beautiful; Madame Hector Jacquin, deep rose; Madame Knorr, rosy pink, a fine variety; Madame Van Houtte, beautiful rosy pink; Mathurin Regnier, lilac rose, fine in form; Monsieur de Montigny, rosy carmine; Noémi, glossy pink; Nouvel Etendard du grand Homme, a salmon-coloured promising kind; Paul Dupuy, Pauline Lansezeur, crimson shaded with violet, a fine variety; Prince Léon, cherry red, fine form; Queen Victoria, white shaded with peach, very beautiful; Stephanie Beauharnais, delicate flesh; Souvenir de la Reine d'Angleterre, bright rose; Souvenir de Leveson Gower, dark red, large and full; Thomas Rivers, bright rose; Triomphe de l'Exposition, beautiful crimson; Tower Malakhoff, dark crimson; William Griffith, bright lilac rose, fine in form; William Jesse.

Bourbons.—Adelaide Bougère, dark velvety crimson; Dupetit Thouars, beautiful bright crimson, still a useful rose; La Quintinie, bright shaded crimson; Réveil, rich velvety crimson; Souvenir de Malmaison, blush, a magnificent variety.

Noisettes.—Lamarque, white; Narcisse, primrose yellow, very beautiful; Triomphe de Rennes, yellow.

Tea-Scented Chinas.—Auguste Vacher, yellow, shaded with copper colour; Amabilis, rosy blush, large; Bougère, bronze; Comte de Paris, a fine old variety; Devoniensis; Gloire de Dijon, yellow, shaded with salmon, magnificent; Goubalt, rosy buff, large and fine; Duc de Magenta, a new kind, which we hope to see again; Joséphine Malton, creamy white, large; Louis de Savoie, sulphur; Madame Lartay, yellow, shaded with salmon; Niphetos, pale lemon, very large and beautiful; Souvenir d'un Ami, salmon and rose shaded, large and fine; Souvenir d'Elise, a splendid rose; Silène, rosy salmon; Vicomtesse Decazes, bright yellow.

Moss.—Baron de Wassenaer, rose; Crested; Gloire des Mousseuses, pale rose, large.

Provins.—White, still a good old rose, and shown in many other stands.

Hybrid Chinas.—Chenêdolé, vivid crimson, large and fine; Charles Lawson, bright rose, large and full; Paul Ricaut, bright crimson, fine in form.

French.—Boule de Nanteuil, violet purple, a good old rose; Duchess of Buccleugh, dark rose, shaded with blush; Latour d'Auvergne, shaded rosy crimson; and Napoléon, brilliant crimson.

In the class for amateurs keeping a gardener, the best forty-eight came from J. T. Hedge, Esq., of Colchester. The flowers in this lot were beautifully dressed with moss cut into small turves, which made a vivid green velvety ground-work, on which, of course, the flowers looked all the fresher and brighter by contrast. The second prize in this class was taken by the Rev. S. R. Hole, the worthy secretary of the Rose Show Association; third, C. M. Worthington, Esq.; fourth, Mr. S. Evans. In the amateurs' class for twenty-four varieties, one truss of each, Mr. Hedge was again first; Mr. S.

Evans, second; Mr. Hudson, third; and W. Mercer, Esq., fourth. Mr. Hedge's twenty-four consisted of the following:—Charles Lawson, Paul's Queen Victoria (a fine large light kind), Shakespere, Madame Bravy, Gloire de Vitry, Caroline de Sansal, Queen, Madame Knorr, M. Cambacères, Gloire de Dijon, Alexandrine Bachmeteff, Cloth of Gold, Souvenir d'un Ami, Paul Ricaut, Louise Magnan, Adèle Prevost, Auguste Mie, Aurora, Devoniensis, Lord Raglan, William Griffith, and Niphetos. Among other groups the best came from C. J. Newdigate, Esq., F. Barchard, Esq. (Uckfield), and W. Mercer, Esq., of Hunton, Staplehurst.

In the amateurs' class for twelve varieties, one truss of each, the Rev. T. M. Wetherall was first; C. M. Worthington, Esq., second; Rev. S. R. Hole, third; and Mr. Terry, gardener to C. G. Pullen, Esq., fourth. Among these stands were the following:—General Jacqueminot, Gloire de Dijon, Anna Alexieff, a very good variety; Smith's yellow Noisette, a charming variety when caught in good condition, as this was; Duke of Cambridge, bright rose; Jules Margottin, which is universally admitted to be one of the very best of its class; and Léon des Combats, also a good rose.

Among the various gatherings we looked especially for Jean Hardy and Isabella Grey. Neither of them were there. Yellow roses of the old school were not abundant; Gloire de Dijon, Goubalt, Devoniensis, Cloth of Gold, Decazes, and Persian Yellow, were generally good; and Mr. Cant's box of Cloth of Gold was alone worth the journey to see. It was an interesting point to see Mr. Keynes, the master of the dahlia, there as an exhibitor of roses. He took the first prize in the nurserymen's class for twenty-four varieties, three trusses of each, with Madam Rivers, light and beautifully formed; Pauline Lansezeur, deep rose; Souvenir de Leveson Gower, Juno, Madame Knorr, Général Jacqueminot, Comtesse de Chabrilliant, Enfant de Mont Carmel, Prince Léon, Gloire de Vitry, Stephanie Beauharnais, Géant des Batailles, William Griffiths, Malmaison, Evêque de Nîmes, very vivid, and like sealing-wax; La Ville de St. Denis, very large.

Among roses of special interest we noticed Emperor Napoleon, like Prince Noir, with a fiery flush on the tips of the petals; a curious and valuable dark rose. Evêque de Nîmes was good in all the stands; as a high-coloured rose, it seems to do well in all soils and climates that any way suit roses at all. Ornément des Jardins, a richly-coloured imbricated rose, made a good show, and was in most of the stands. Madame Vidot, one of our best light hybrid perpetuals, seems to be surpassed by H. P. Anathalie Chantride, which is more imbricated and a clearer colour than Madame. Paul Ricaut keeps its character as a genuine good rose. The White Provence in Mr. Paul's stand was superb; those who are without it should book it for next season. Souvenir d'Elise, a charming tea, which is very shy when young, and difficult to grow, gives superb flowers when of mature growth. H. P. Duc d'Ossuna is a fine flower, exquisitely formed, vivid carmine, and rather hard in the eye. H. C. Juno, close-cupped, flesh colour, was a general favourite. Colonel de Rougemont, a large and coarse rose, which looks well on the plant, was to be seen on too many stands; it is too much like a cauliflower to be suitable for exhibition. Boule de Nanteuil, a good old rose, was shown in fine condition; it is one of the best dark roses, colour rich plum. Madame Knorr and Victor Trouillard, which of late years have been scarce in the trade, were much admired, and booked by enough probable customers to give the trade security for their propagation this season to any reasonable extent. Bacchus, a H. P. of Messrs. Paul's, was well shown by Mr. W. Thurlow, of New College, Oxford; it is a rose of the Géant section. New roses were not numerous, as we never expect them to be in this country; but the few shown were such as may be generally adopted without fear. Mr. Standish had a side-table filled with good masses of Eugene Appert, which we believe will prove one of the best roses for the neighbourhood of large towns, as it grows and blooms freely at Stoke Newington, and has not yet

been touched with mildew, which is the bane of Géant in all close districts. With Eugene Appert Mr. Standish had blooms of a new noisette, called Celine Forestier, bright yellow, well formed, petals of better substance than usual with noisettes, and it was reported to have stood the last winter without hurt, when teas and noisettes were cut down by hundreds in many of the large nurseries. It has evidently some of the tea blood in its veins, and will probably be a fine rose under glass and in tiffany-houses. François Arago, another new rose, shown by Mr. Standish, is one of the darkest roses known; if a free bloomer, it will be invaluable. By the look of it we should expect it to be very shy, and requiring the purest atmosphere and a very dry half-peaty soil. Messrs. Fraser, of Lea Bridge, also exhibited new roses. Their contribution included Louis XIV., deep crimson, velvety, well formed, superb; Mademoiselle Bonnaire, French white, like Maiden's Blush, and questionable; Anna de Diesbach, large rose, and certainly *not* new, for it is to be found in all good collections; Victor Verdier, rosy lilac, and as coarse as Colonel de Rougement; Triomphe de Lyon, like Léon des Combats, and quite as good; Senator Vaise, a bright carmine rose, almost scarlet, and every way excellent.

We have already remarked, that roses in pots were only second rate. They wanted size to make them equal to the occasion. Messrs. Paul had the best lot, and took the first prize; Mr. Francis, was second. A few of Hunt's Sweet-Williams, shown by Mr. Bragg, attracted attention, but we thought them not equal to many a patch of self-sown seedlings we have seen in neglected gardens; their markings, however, are curious, and the edges of the flowers are not serrated, which bring them within the category of florists' flowers. Mr. Bragg's stand of pinks were as good a set as we have seen this season. Mr. Turner showed Oscar strawberries, in magnificent style. Such a box of huge, dark-coloured fruits is not often seen, even in good seasons; and if Oscar will make such a show in 1860, what will it do when the zodiac is in order, and the seasonable sunshine comes, as of old? The berries were like so many heads cut off prize cockscombs, and as firm as if cast in terra cotta. At the end of the table, and apart from the competitive stands, was a pretty basket, labelled "London roses, grown within three miles of the Post-Office, by Shirley Hibberd; not for competition." This attracted a good deal of attention, and the generally expressed opinion of the thousands who saw them, was, that in the individual excellence of the blooms, they could suffer nothing by comparison with the best roses from distant places, where soil and climate are alike of the best. In the centre was a fine bunch of common cabbage; around this were trusses of Géant des Batailles, General Jacqueminot, Jules Margottin, Madame Domage, Noemi, Lord Raglan, Marquis d'Avesne, common moss, Ravel, and Caroline de Sansal. The Crystal Palace Company supplied plenty of furnishing plants for the decoration of the table, and the total number of visitors during the day was 16,312.

Floral Hall, Covent Garden, July 18th and 19th.—Very different from the exhibition at the Crystal Palace was the show of roses held here. As other subjects were admitted, there was, of course, more variety; but the scenic effects produced were such as to give a uniqueness of character to the event, such as is not often accomplished at flower-shows. At the far end of the hall was a huge conical stage, filled with Gem calceolaria and a crimson verbena, in compartments, so as to form alternate bands of crimson and yellow, running from top to bottom, and widening, fan-like, to the base. The pots containing the plants were laid on their sides, so that the entire head of each plant was presented to the eye, and the foliage filled in between, as a dense green groundwork. The plants were, we believe, supplied for the purpose by Mr. Kendall, of Stoke Newington. One side of the room was devoted to roses, the cut flowers making a grand show, and the plants in pots looking considerably more miserable than any did at the Crystal Palace. In the

centre of the room was a grand bed of roses, twenty-two feet in diameter, made up of thousands of flowers thrown pell-mell together, gradually rising by a soft swell to the centre, where there was a circle of white, the rest being mixed indiscriminately. Around this bed were boxes of cut roses and large masses of roses of sorts. On the opposite side were stove and greenhouse plants, and, in the centre of the room, stove plants and fuchsias. Among the miscellaneous decorations were some examples of Stevens's Mosaic Jardinières, figured and described some time since in the Floral World. They were furnished with choice plants, and were universally admired for their exquisite colouring and artistic beauty of geometric patterns. Most of the roses were of the kinds described in the foregoing notice of the show at the Crystal Palace, and many of the same exhibitors were there. Mr. Cattell showed Miss Grey in very poor condition. One good feature was a collection, not for competition, from Mr. Rivers, of Sawbridgeworth, and among them such a bunch of Persian Yellow as would drive a genuine rose amateur crazy with delight. Mr. Keynes came out very strong. Mr. Hollamby, Mr. Cant, and Messrs. Paul, were in their full strength. Mr. Standish showed Celine Forestier. Mr. Mitchell had America, and Mr. Keynes, Virginal, a most beautiful French white, H. P. In fuchsias, Mr. Oubridge took first prize with a splendid set of plants. The miscellaneous flowers included a very nice row of herbaceous calceolarias; some verbenas, from Mr. Knight, of Hailsham, among which we noted Miss Emily Harmer, a deep crimson, with gray eye, an excellent truss; Confet, fiery crimson, white eye; Lord Elgin, very dark plum, Messrs. Milne and Co., of Vauxhall Nursery, had a pretty collection of erect-flowering gloxinias, a fine Bignonia grandis, and a Lomaria, with a few other plants of the same furnishing class. Mr. Rhodes had a fine Medinilla in his lot; Mr. Green, a good Kalosanthes. Statice Holfordii was well shown. Azalea lateritia and Azalea striata formosa were both in good trim, and a credit to their growers so late in the season.

RULES FOR THE GOVERNMENT OF THE SYDENHAM HORTICULTURAL SOCIETY.

1.—That this society shall be called "The Sydenham Horticultural Society."

2.—That this society shall have for its object the attainment by all classes of an improved taste for, and an increased acquaintance with, the principles and the practice of gardening; together with a knowledge of such branches of natural history as are immediately connected with horticulture.

3.—That for the promotion of this object, there shall be public exhibitions of plants, flowers, fruit, and vegetables; periodical meetings, at which papers will be read, or lectures given, upon subjects bearing either directly or indirectly upon horticulture; and a library and museum containing books, periodicals, dried plants, and other objects of interest to horticulturalists.

4.—That this society shall consist of a president, vice-presidents, a treasurer, an honorary secretary, an assistant secretary, members, and honorary members.

5.—That the business of the society shall be conducted by a committee of management, consisting of the officers mentioned in Rule 4, and twelve other members, of whom eight shall be practical gardeners; and that five shall form a quorum for the transaction of business.

6.—That an ordinary meeting of the committee of management shall be held on the evening of the first Thursday in every month; and that an extraordinary meeting of the committee of management may be convened at any other time on the application of two or more members, notice being given by the secretary to each member of the committee two clear days previously.

7.—That the committee shall be em-

powered to make, from time to time, such regulations consistent with the general rules of the society, as they may think necessary.

8.—That any infraction of the rules of the society shall be immediately noticed by the committee, who shall take such steps in the matter as they may think necessary.

9.—That the committee shall be required to regulate the annual expenditure of the society, as nearly as possible, upon the following scale, viz:—For prizes 40 per cent. of the receipts; show expenses, 30 per cent.; library and museum, 10 per cent.; rent, printing, stationery, postages, commission, etc., 20 per cent.; and that if the sum expended upon either of the above accounts should not correspond with the percentage specified, the balance shall be carried forward to the same account of the following year.

10.—That the committee of management shall be elected yearly, at the annual meeting of the society; and that the committee shall have the power of filling up any vacancies that may occur in their number between the period of the annual meetings.

11.—That the annual meeting of the society shall be held during the month of April in each year.

12.—That at each annual meeting, the committee shall lay before the members a report upon the condition and prospects of the society, and a statement of the accounts of the preceding year, made up to the 31st December, and duly examined and certified by the auditors.

13.—That at the annual meeting, any member may bring forward suggestions for the improvement of the society, provided that he has given fourteen days' notice of his intention in writing to the committee.

14.—That at each annual meeting, two auditors shall be appointed, who shall examine the accounts of the society after the end of the current year, and report upon them to the next annual meeting.

15.—That at each annual meeting, a collector shall be appointed, who, upon giving security to the amount required by the committee, shall be employed to collect donations and subscriptions on behalf of the society:—that for all moneys so collected, he shall be required to give a printed form of receipt; and that he shall be remunerated for his trouble, by a commission of 5 per cent. on the amount collected by him.

16.—That the committee may of their own accord, and shall at the written request of twelve member of the society, call an extraordinary general meeting, giving fourteen days' notice of the same to each member, and stating the special purpose for which it is to be convened, to which object alone the business of the meeting shall be confined.

17.—That any proposed new rule, or alteration of an existing rule, shall not become a rule of the society, without the sanction of a majority consisting of at least two-thirds of the members present at the meeting.

18.—That those subjects alone, which relate to the concerns of the society, shall ever be proposed or brought forward for discussion at any annual or extraordinary general meeting.

19.—That the chairman, at all meetings of the society, shall have the casting vote, in addition to his vote as an individual member, in case of an equal division of the meeting.

20.—That all propositions, at any general meeting, shall be disposed of by a show of hands; but that a ballot may be demanded by any twelve members present, provided that notice of the same be given to the chairman in writing before the conclusion of the meeting

21.—That all annual subscriptions shall become due and payable on the 1st day of January, in each year.

22.—That every member shall pay an annual subscription of at least 5*s.*, excepting only cottagers and allotment holders, who shall be admitted as members, subject to the approval of the committee, upon payment of 2*s.* 6*d.* per annum.

23.—That donors of £5, £10, and upwards shall be considered life members, and shall be entitled to the privileges of annual subscribers of 10*s.*, 20*s.*, etc., respectively.

24.—That the committee of management shall be empowered to recommend to the annual general meeting a limited number of gentlemen for election as honorary members of the society; and that upon their election they shall be entitled to the privileges of annual subscribers of 10*s.*

25.—That all persons ceasing to be members of the society, from whatever cause, shall forfeit by that act all right to, or claim upon, the society or its property.

26.—That every annual subscriber shall receive a ticket of membership, entitling him to free admission to all lectures and other public meetings of the society.

27.—That every annual subscriber of more than 5*s.* shall have the privilege of introducing to all lectures and other public meetings of the society, one friend for every additional amount of 5*s.* subscribed by him.

28.—That the charges of admission to the lectures, etc., shall be determined by the committee from time to time.

29.—That tickets of admission to all shows of the society during the current year shall be issued as following, viz. :—To cottagers and allotment holders, one blue ticket for every amount of 2*s.* 6*d.* subscribed; to other members, two blue tickets or one yellow ticket, for every amount of 5*s.* subscribed.

30.—That members shall be able to obtain tickets for the shows for their friends on the following terms, provided that the tickets are applied for during or before the week preceding that in which the show will be held:—Yellow tickets, 1*s.* 6*d.* each; blue tickets, 6*d.* each.

31.—That the holders of yellow tickets shall be admitted to the shows at one o'clock on the days of exhibition; and that the holders of blue tickets shall be admitted at three o'clock on those days.

32.—That the charges for admission to the shows of the society shall be as follows:—For admission between the hours of one and three o'clock, 2*s.* 6*d.* each; for admission after three o'clock, 1*s.*; for admission after five o'clock, 6*d.*

32.—That the appointments of the shows and meetings shall be arranged by the committee, subject to the rules hereafter mentioned; and that the committee shall give notice of the same to every member.

34.—That the committee shall be required to publish a schedule of the prizes and conditions of exhibition at least six weeks before the date of each show, and shall send a copy to every member.

35.—That each person intending to exhibit, shall give notice in writing, by filling up the society's printed form, which can be obtained of the secretary, and which must be delivered to the secretary, on or before the fifth day before the day of exhibition.

36.—That the printed notice, to be filled up and signed by each intending exhibitor, shall indicate clearly the class and division in which it is proposed to compete, and the space which will be occupied by the objects exhibited; and shall also contain a declaration to the following effect:—That the productions to be exhibited by him, are *bonâ fide* his property or that of his employer, and have been in his possession and under his own charge for the two months then last past, or have been raised by him within that period: and that the said productions have been grown either in the district parishes of Sydenham or Forest Hill, in the hamlet of Penge, or in such parts of the parishes of Beckenham or Camberwell as lie within one mile of St. Bartholomew's Church, Upper Sydenham.

37.—That members intending to exhibit bouquets or devices of cut flowers shall not be restricted to flowers grown in their own gardens, provided that they were grown within the limits specified in Rule 36.

38.—That all plants, flowers, and other productions, must have affixed to them their proper names clearly written upon cards, which will be provided by the committee; that they must be in the tent, and ready for exhibition, before ten o'clock on the morning of the show-day; and that any deviation from these requirements will exclude them from competition.

39.—That a member shall not exhibit on the same day for competition, in his own or any other name, two or more collections or stands, either wholly or in part, of the same description of plants, flowers, fruits, or vegetables.

40.—That exhibitors shall be required to provide the necessary boxes or stands for the exhibition of their productions.

41.—That no greater number of articles shall be exhibited for a prize than is specified in the schedule, on pain of exclusion from competition.

42.—That no member shall be allowed to exhibit at any show, until his subscription for the current year be paid.

43.—That the productions exhibited shall be considered as intrusted to the care of the committee from ten o'clock in the morning till seven o'clock in the evening, when they will be delivered to the exhibitors; and that no interference with the productions will be allowed during that time, without the especial permission of the committee.

44.—That by an amateur, shall be understood one who is not employed as a gardener, and who does not employ any one in that capacity, except for the purposes of mowing, digging, or sweeping up.

45.—That by a cottager, shall be understood a mechanic or labourer, under the employ of a master.

46.—That by a practical gardener, shall be understood one who is either a nurseryman or a market gardener, or is employed for a part or the whole of his time as a working gardener.

47.—That the judges shall be appointed by the committee.

48.—That the decision of the judges shall in all cases be final.

49.—That the judges shall not upon any account enter the place of exhibition, until summoned by the committee.

50.—That no one, except the secretary, can be allowed on any pretence whatever to be present during the examination of the productions by the judges.

51.—That a judge shall not be allowed to compete for a prize in any class in which he may be called upon to make an award.

52.—That the judges shall have the power of refusing to make an award, in case the objects exhibited are, in their opinion, not worthy of the prize.

53.—That the judges shall bring to the notice of the committee, any collection, specimen, or other objects, which they may think deserving of recommendation for a special prize, or certificate of merit.

54.—That that collection will be regarded as the best, in which the greatest variety and novelty shall be found, combined with the highest cultivation.

55.—That the committee shall have the power of withholding the prize from any exhibitor, who has failed to comply with the rules and regulations of the society.

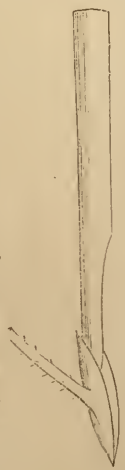
56.—That this society shall be dissolved whenever the number of members is reduced to sixteen; and that in the event of a dissolution, the effects shall be sold, and the surplus money shall be disposed of, as the majority of the remaining members shall determine.

57.—That these rules shall be printed, and a copy of them forwarded to every member; and that no member shall be absolved from the effect of these rules, on any allegation of not having received them.

THOS. FARQUHAR, *President.*

ROSE BUDDING.

IN reading Mr. Hibberd's "Roses for the Million," in the July number of the FLORAL WORLD, I find some most useful and excellent information on the cultivation of that deservedly esteemed flower. Having for many years, for my own pleasure, been a successful cultivator of the rose, especially in the standard form, I am desirous of giving those who, like myself, devote some of their "leisure hours" to the above interesting occupation, a useful hint or two on an important part in the process of budding—it is in taking out the woody part of the bud before inserting it into the bark of the stock. Mr. Hibberd's instructions are very good, but the means I use, and have used now for several seasons, will, I almost venture to say, quite dispense with either "thumb nail" or "back point of the budding knife," recommended by Mr. H. It is simply this, take the barrel of a goose quill of moderate thickness, if thin in substance the better, and cut off with a sharp knife one half of the upper part, as if preparing to make a pen, but instead of proceeding further for that purpose, round off the point, and it forms at once what may be called either a *budding scoop* or *separator;* then if the bud, just taken from the shoot, is held, leaf downwards, between the first finger and the thumb of the left hand, and the scoop or separator inserted between the wood and bark at the narrow, or what has been the upper end on the shoot, and forced forward with a slight pressure upwards against the woody part, the bud, if from a healthy shoot, will instantly separate in a most perfect and uninjured state, ready at once for insertion into the stock—a quickness which I need not say is important, as success greatly depends on the expedition in the whole operation of budding. To make the description still more clear, I inclose a scoop ready for the work, and a sketch showing its introduction into the bud.



R. O.

Near Warrington.

NATURE AND ART COMBINED.—COMMON FERNS AND PLASTER VASES.

Poor Keats, in his admiration for the beautiful, says,—

"A thing of beauty is a joy for ever:
Its loveliness increases; it will never
Pass into nothingness, but still will keep
A bower quiet for us, and a sleep
Full of sweet dreams, and health, and quiet breathing."

Those whose tastes and feelings are similar to that young and much-lamented poet's, will at once feel the truth of these lines, and it is to such, who look upon the beauties of nature and art with admiration and appreciate them as they deserve, that this slight attempt is made to add a degree of pleasure and amusement to all who delight to turn aside from the toil and drudgery of business, and refresh themselves with Nature's ever-varying and peculiar charms.

To those whose longings for the beautiful are in a measure curbed by their limited means, the following hints perhaps will not be unacceptable, and serve to show at what little cost many things suitable for adorning our gardens and rooms can be obtained.

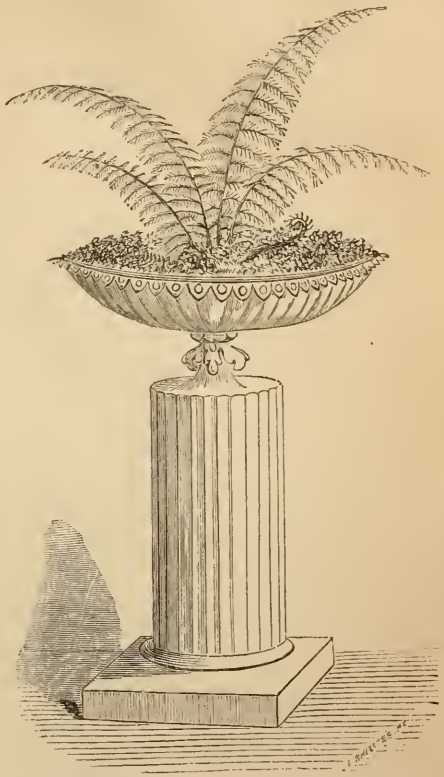
We all recollect from childhood the periodical appearance of those dark and swarthy visitors from Italy, who, with their large boards of plaster figures and elegantly-designed vases, have delighted us with their chaste appearance, and astonished us with the beauty of their outline. It is with these men we have to deal (or, rather, the better class of them), not exactly in the streets, but at their humble abodes, where, amidst their numberless moulds and casts, ample choice is afforded of selecting patterns most to our taste and in keeping with the places they are intended to occupy. It will be found exceedingly interesting to watch the process of modelling, the subjects being generally chosen from works of art by eminent Italian masters; and the great civility and respect these men show to any one who takes an interest in their work, makes a visit to such a place—despite the very humble quarter—a most agreeable one. They will be pleased to converse with you in their broken English, and, though generally men of little education, they have a quick perception of the beautiful. They will delight to tell you of their native city, Lucca (from which place they invariably come), and of the treasures of that glorious city, Florence, where art abounds in all its classic purity, and of which Rogers says,—

"Of all the fairest cities of the earth
None is so fair as Florence. 'Tis a gem
Of purest ray; * * * * * Search within,
Without; all is enchantment! 'Tis the *past*
Contending with the *present;* and in turn
Each has the mastery."

But it is advisable for several reasons to visit these men at their work, as you can then superintend and explain many things, in the moulding of vases especially, which, if cast for ornament alone, would be sufficient, but for any horticultural purpose, would be quite useless, through the absence of drainage. But this defect is easily remedied by inserting a piece of metal piping through the pedestal, which has the double advantage of giving strength to the vase and carrying away the superfluous water. Zinc piping will be found to answer better than iron, as it does not rust and discolour the plaster, several yards of which may be obtained for a few pence at any ironmonger's.

It will, no doubt, occur to the reader that the material of which these things are made is of such a perishable nature as to render it unfit for the purpose abovementioned. The composition certainly is of a more fragile nature than could be wished, but this obstacle also can, in a great measure, be overcome by subjecting the vase, when quite dry, to repeated coatings of boiled linseed oil, the effect of which will cause the plaster to become considerably hardened, and will also form a good foundation for painting. The plaster having absorbed the oil and become tolerably dry, the paint should be applied, using it as thinly as possible, care being taken to free the brush of all lumpy matter which adheres to the edge of the paint-pot, and becomes very troublesome in painting the finer parts of the moulding. The lightest shade of stone colour is best suited for the purpose, as it contrasts better with the bright green foliage. It is preferable to place the plant in an ordinary flower-pot, suited to the shape of the vase; occasionally a propagating pan will be of more convenient form, as is the case in the present illustration, which is a copy of a plaster vase prepared in the way already described, and filled with Lycopodium denticulatum, a small specimen of the common lady fern in the

centre. With a little care, and the precautions already given, the vase may be placed in the garden, and exposed to any weather with safety during the summer months, and will also form a beautiful object in the drawing-room or conservatory, the latter place suiting it admirably, as many of the more choice kinds of ferns and lycopods which will not bear the dry atmosphere of a room on the full exposure of a burning sun will flourish amazingly beneath the shade of greenhouse climbers. A very pretty effect is formed by placing separate blooms of verbenas in the little tin tubes used for exhibiting cut flowers, and pressing them into the moss at equal distances round the edge of the vase. When arranged in this way, and a nicely shaped plant of "maiden-hair" fern in the centre, it has a delightfully cool and refreshing appearance in a room, and will continue to look well for a length of time, if frequently watered with a fine syringe, and the verbenas replaced with fresh ones, as they become faded.



There are, of course, many things to be procured of more durable material, and of the most elegant designs, such as Ransome's siliceous cement, a composition said to be harder and more lasting than stone itself, as it resists the action of frost; but the present remarks are intended for those who do not choose to indulge in expensive articles for such purposes, and to show at what little* cost the most beautiful designs may, with a little care and trouble, be made to answer every purpose of the amateur.

R. T. E.

Uffington, July, 1860.

BOUGAINVILLÆA SPECTABILIS.

This truly magnificent plant was discovered in South Mexico, about the year 1767 or 1768, by Commerson, the botanist attached to a French voyage of discovery round the world, and was by him named in honour of the commander of the expedition, M. de Bougainville. It was introduced to our gardens in 1829. It was always what is called a "shy flowerer," but now and then it bursts forth in a perfect blaze of beauty, and whenever this is the case, the horticultural world is electrified by the result. Since its introduction, it has been disseminated through almost every country in the world, and wherever it finds a congenial climate, it soon becomes a great favourite, as the extract from a letter I shall presently give will prove. But let me first speak of the plant and its management.

Bougainvillæa is a woody shrub, with long, pendant or half-climbing branches; sometimes these bear a few curved spines. The leaves are more or less stalked, ovate,

* It is scarcely necessary to state the probable cost of articles in plaster, the price of such things being so well known. It will be sufficient to add that the one already figured in the present number, which is about two feet high, was not more than 1*s.* 6*d.*, and the additional expense of preparing it 8*d.*, the whole not exceeding 2*s.*

and somewhat pointed, generally rather downy. The flowers are produced at the base of the leaves, upon the smaller spur-like twigs, and owe all their brilliancy to the three large bracts which enclose the flowers, and to which they are attached*. These bracts are, as our sketch will show, large, leafy, and veined like the leaves; attached to them a tubular flower, about an inch in length, and of a pale greenish colour.

And now comes the great practical question, "Shall we ever be able to manage this plant so as to insure a periodical display of its beauty?" So many things are now accomplished—facts which were only

in different varieties, these are found of all shades of colour, from pale salmon or rosy pink to deep crimson or even purple. Two out of the three of these usually bear

* This is a similar case to that of the Poinsettia pulcherrima, the glory of our hothouses in winter. In both cases, the flowers themselves are inconspicuous, while the bracts enclosing them are large and brightly coloured.

a short time ago believed to be impossible—that it makes one chary of prophesying. It may be that the time will come when this plant will be the glory of our hothouses, and if so, it can only be brought about by checking its too luxuriant growth. This must be done by cramping the roots, and thoroughly ripening the wood by

keeping it dry and cool for a season, and then starting it into growth again in the spring, in a good moist growing atmosphere. It is said that in France and the south of Europe it blooms freely every year. True; but then they have not the cloudy sky and moist atmosphere which characterize our climate, and which, we must never be so ungrateful as to forget, enables us to grow a great many things to perfection, if it does render the cultivation of a few others difficult. The most suitable place in which to try the Bougainvillæa would be the front of a moderate stove, where it could be trained up like a vine just under the glass, so that it could enjoy all the light we can obtain. Do not be disheartened if keeping it so dry at the root during winter causes it to lose almost all its foliage; this may, indeed, be looked upon as a favourable symptom.

In the "Florist" for July, a letter from Rome contains this sentence:—"A Brazilian plant, Bougainvillæa spectabilis, is in full flower, and exceeding anything I ever saw. Like the Wistaria, the flowers come before the green leaves. The corolla [bracts] is so delicate, that it is quite transparent, and of that tint called *mauve;* and by the dictum of Napoleon's Empress, the only colour favoured by the caprice of fashion."

Let us conclude this notice by an extract from the letter of a friend residing near Calcutta, which will convey some slight notion of its appearance where it is in all its glory. He says—"I am writing this half an hour after daybreak, the pleasantest part of the day out here. I heartily wish you could take a seat beside me under the shade of this verandah; the sight that is now before me would well repay the visit. Not twenty yards from where I write is an old tree of Bougainvillæa spectabilis; it is about twenty feet high, and its long, pendant branches trail to the ground—not a green leaf to be seen on it; it is one mass of bright rosy pink flowers. With the dew-drops glistening on every petal, it is a sight which no pen could describe, and the artist who could give even a faint idea of it would be clever indeed. Nothing but the ruby could vie with it in brilliance; as the morning breeze just makes the branches sway a little, it looks like a gigantic piece of jewellery. I enclose a few of its petals; they will most likely lose part of their colour, but may serve to remind you of a far-away friend. We always cut a few bouquets of it before it goes out of flower, and these, like 'Everlastings,' look gay for a long time."

The "petals" sent were, of course, the large bracts, which, to any but a botanist, would be looked upon as parts of the corolla.

DIANTHUS CHINENSIS HEDDEWIGI, AND GAZANIA SPLENDENS.

These are, undoubtedly, two of the most valuable additions to our gardens within the last few years. The coloured drawings sent out early in the spring, of the new Dianthus, were most attractive, and, no doubt, tempted many to indulge in a few packets of seeds, although dealt out so sparingly by our seedsmen. But beautiful as were the illustrations, they could scarcely convey any idea of the richness and brilliancy of the flowers, or their endless variety. As a general rule, the drawings issued by nurserymen are such exaggerations of the reality, that, with few exceptions, disappointment is the result; and it is a marvel to us and many others who have been beguiled by them, that people should paint such untruth, with this fact before them, that, in a few months hence, the plants will spring up and bloom "in judgment against them." In the case of the Dianthus Heddewigi, however, the painter himself would be puzzled to excel it in colour, although he may, and perhaps has, exceeded it a little in *size;* nevertheless, it is such a charming flower that all who wish for beauty and novelty combined should possess it. It was raised by Mr. Heddewig, of St. Petersburg, to whom was awarded a prize medal by the Horticultural Society of that city. That such high compliment was most deserving will be at once acknowledged by all who have seen a bed of such flowers in bloom.

The Gazania splendens—a great improvement on Gazania rigens—is another addition to our bedding stock, its bright orange blossoms expanding each morning as the sun gains strength; the petals radiating from the centre, and forming a star-shaped bloom. Each petal is dotted near the bottom with a dark brown velvety spot, on which stands, in great relief, a white one, the whole forming a handsome circle in the centre, and arranged with such mathematical precision that the flower

is indeed a model of flowers, and we cannot imagine anything richer in appearance than a bed in full bloom, surrounded with a broad edging of Purple King verbena or Lobelia speciosa. R. T. E.

Uffington, July, 1860.

[We gladly confirm our correspondent's estimate of these two charming and invaluable plants. There are several new varieties of Dianthus besides Heddewigi, and it would be difficult to determine which among them is the most beautiful. D. Verschaffelti is an exquisitely coloured flower, but deficient in form. In this section of hybrids, however, form is not of such vital importance. Gazania splendens can be propagated at this season better than at any other time, to make flowering plants for next year.—Ed. F. W.]

HERB DRINKS.

A CHAPTER FOR GARDENERS' WIVES.

There is a branch of the culinary art, once cultivated by our housewives in the olden time, which is too much neglected by the modern English, though our neighbours on the Continent avail themselves of its aid whenever need requires. In our cookery for the sick we have a great variety of nice little tempting dishes of the solid and nutritious class, such as puddings, jellies, and blancmanges, besides eggs and farinaceous food under various aspects; but we are limited in our resources as to liquid preparations. Those which we make now-a-days are mostly too good for invalids; strong beef-tea and concentrated mutton-broth are more fitted to feed any internal fire than to quench it. Sick men's soups, with us, are hardly diluent enough to drench and wash away a tenacious indisposition, and to sweep it before it by a deluge of draughts. Our real English soups—mock-turtle, ox-tail, or giblet—are meat, drink, and vinous refreshment, all in one, and excellent they are for men in robust health, taking strong exercise; but we really are deficient in those mild, yet not utterly limpid, and simple beverages which inundate the bodily system, as the Nile overflows its valley, drowning many a noxious intruder, and leaving behind it a decidedly beneficial influence.

Herb drinks, or tisanes (more learnedly ptisanes, being derived from πτισανη, husked and pounded barley, and also the barley-water prepared from the same), are a class of domestic medicines always made at home. Of all the forms of taking physic, tisanes are the most largely employed in France. Without consulting the doctor, and by a sort of instinct, people have recourse to them at the slightest indisposition. Often they form the only treatment. Professional men prescribe them always, either on account of the real service they render, or in obedience to the public opinion touching their utility, or simply to quiet the sick man's mind. Even when useless, they amuse the patient with the semblance of a serious treatment; they gain time, and allow the healing power of Nature to work unchecked by grosser diet, which they replace for the time. Sick people mostly crave for something to take to do them good; they are hard to be persuaded that, in many cases, Nature alone will effect their cure. It is a matter of importance to humour them, and herb drinks step in to fill the gap (to play the part of proxy to active drugs) in the shape of a harmless beverage. Their utility is so universally recognized that recourse is had to them at the first symptom of indisposition, whether in consequence of thirst and heat felt by the patient, or in deference to wide-spread and traditional notions. The addition of a considerable quantity of liquid, absorbed and carried into the circulation, and brought into contact with the different tissues, has actually real advantages in the majority of cases. The benefit derived from tisanes, whose use is the result of the sick man's longing, is fully proved by experience. They comprise the whole pharmaceutical machinery necessary to set going, in order to obtain the multitude of cures, which, with tisane's humble aid, Nature alone suffices to effect. It may be boldly stated that more than half the illnesses (not fatal) suffered in France are brought to a happy issue by the sole employment of an appropriate herb drink; and, in those illnesses in which more decided means are obliged to be employed, the herb drink comes in for its full share of credit. A malady to be treated without tisane scarcely enters into French ideas of general therapeutics, unless in certain local affections, or in a few external and inconsiderable lesions. Many a patient attributes his recovery to the herb or the blos-

som of which his drink is made, who would have been thrown into great depression and perplexity by advising him to abstain from tisane, and to trust to the unassisted vital energies of his own constitution.

Tisanes, then, are liquids which contain in dissolution a certain quantity of medicinal principles, and which are intended to serve as the habitual beverage of sick persons. Tisanes may be grouped into several distinct classes in respect to the elements which they hold in suspension. The selection of the class to be administered to different patients, or to the same patient at different stages of his complaint, must rest with the medical attendant, or with the whim or inclination felt by the invalid and the faith he places in its curative powers. Many valetudinarians have their favourite herb drink, which, and no other, they firmly believe will restore them to their wonted health.

Herb drinks, too, are subject to the fashion of the day. They have their rise and fall, like gigot-sleeves, short waists, and crinoline. A long-lived physician will have seen the reign and the decadence of toast-and-water, chicken broth, ground-ivy tea, and many others; tisanes, also, have local reputations. In England, in Sydenham's time, small beer was in vogue; mountainous countries generally patronize butter-milk and whey; the Spaniards put their trust in cacao. Very weak tea, made by boiling a mere pinch in a tea-kettle, is fast rising in continental esteem.

As the amount of active or nutritive principle contained in tisanes is exceedingly small in proportion to their bulk, they approach homœopathic remedies in one respect. Regarding them in another light, they act by a sort of moral power or psychical force, through the implicit confidence placed in them by a numerous body of patients, while the quantity of fluid they contain has an undeniable influence, especially when taken warm, in promoting perspiration and other aqueous discharges from the human frame. With this very object in view, they are always concocted to be as agreeable to the taste and as light to the stomach as possible.

There is, however, a purgative tisane, which ought to be banished from the realms of medical art in consequence of its sinning against this very rule, although it is known by the style of royal tisane. We can understand the wish to prolong *agreeable* sensations, and the desire to have a palate as long as a crane's neck, when a man has epicurean delicacies set before him; but it seems a wanton self-torture to expose one's gustatory organs to the slow passage over them of a pint or more of liquid highly flavoured with senna, liquorice, gayac, rhubarb, sarsaparilla, squills, coriander, and lemon-juice. We are perfectly content to cede the royal draught to those who have the right divine to quaff it, and to content ourselves with the same ingredients swallowed under a plebeian pilular form.

The true way of effecting a tisane cure of the numerous small ailments which few people die of, but which *are* ailments and annoyances nevertheless, is to do as you would in a case of water-cure, of grape-cure, or any other regimen in vogue, viz., adhere strictly to your orders, and be true to your flag. You must swallow no other drink but tisane so long as you are seeking restoration through its aid; and, certainly, some effect—often beneficial—must be produced on the frame by a complete abstinence for a week or ten days from strong tea or coffee, in repeated cupsful; from porter, by the pot; from pale ale and Guinness, in reiterated pints; from bottles of brown sherry, and the same of port; from whets, and drams, and sips of liqueurs innumerable; from double and treble nightcaps of hot brandy-and-water, rum-punch, or whiskey-toddy, not to mention American cooling draughts, such as cobblers and juleps, taken during the course of the day, which count for nothing in the consumer's estimate. From all these incendiaries the stomach is assured, so long as the tisane policy is taken up. The first effect may be a slight lassitude, and a lackadaisical sort of feeling, but afterwards comes activity of the perceptive powers, combined with lightness and tranquillity of the bodily feelings, till an increased appetite and a longing for the individual's usual diet show that the tisane has done its duty, and that the patient may be his usual self again, provided always that his original and every-day self do not indulge in habits of such excess that long continuance in them is impossible to mortal man. Of course, no invalid on the verge of delirium tremens, or within it, can suddenly renounce his stimulant, and confine himself to tisane, without running a risk; but medical men can prescribe the amount of stimulant or sedative to be taken medicinally during a course of tisane, as they can the administration of any other drug that may be specially required. Moreover, when once a man is fairly attacked by delirium tremens, the best thing he can do is (I mean, the best thing he could have

done) would have been to avoid the causes of delirium tremens.

Tisanes are easily prepared by travellers on land; for several of the plants affording them are almost cosmopolite. On board ship, a small packet of dried simples would supply the ordinary requirements of a crew, a scarcity of water being the only obstacle to be apprehended. Be it remembered, too, that the herb-teas of our ancestresses, many of their still-room secrets, and the drinks given by ladies benevolent to their well-behaved poor, and by beauties bright to their wounded knights, were neither more nor less than true tisanes. They have all this grand merit, that, if they do no good, they can scarcely do harm.

The temperature of this class of medicaments is not a matter of indifference. In general, they are taken warm, or hot; and, in a great number of cases, the rule is good, but is far from applicable to every derangement of the health. Inflammatory diseases, other than those of the respiratory passages, or the skin—genuine fevers—affections which are accompanied by a sensation of inward burning, and in which the breathing is impeded, difficult, or retarded by debility, require cold drinks; some of them, even iced tisanes. In diseases of the lungs, on the other hand, whether with fever and cough, or even without fever, but of a catarrhal character, cold drinks are injurious; hot tisanes are best, because they facilitate expectoration. Skin diseases also require hot tisanes, for different reasons. As to the quantity to be imbibed, the patient is generally permitted to drink at discretion. In a few dropsical cases only would restriction be laid on the daily allowance, which would vary according to the state, habits, constitution, and complant of the drinker.

And now for the receipts to make various tisanes, from high scientific and official authority; they are much less difficult than either Medea's broth or the more modern composition prepared by Macbeth's witches. The weights and measures given are French; the proportions, which is all that need be observed, are easily maintained by remembering that a litre is equal to a pint and three-quarters, and that an ounce avoirdupois weighs twenty-eight grammes and a third, as near as may be.

Burdock tisane; a purifyer.—Take of roots of burdock slightly pounded in a mortar, twenty grammes; of boiling water, one litre. Infuse three hours, strain, and decant. Prepare in the same manner tisanes from the roots of smallage, angelica, asparagus, elecampane, Roland thistle, male fern, strawberry, marsh-mallow, patience, horse-radish, and soapwood. Exactly the same for bark tisanes, from gray quinquina, yellow quinquina, fir-tree buds, elder, and simarouba, a Jamaican tree.

Polygala tisane.—Take of Virginian polygala eight grammes, of boiling-water one litre. Infuse two hours, and strain. In the same way you may make tisanes from the roots of bitter quassia, sassafras, valerian, and box.

Couch-grass tisane; an emollient diuretic in high repute.—Wash twenty grammes of couch grass (the roots and plant) in cold water; bruise them in a marble mortar, and boil them for an hour in a quantity of water sufficient to obtain a litre of tisane; strain and decant. In the same way, omitting the previous washing, you can obtain tisane from the roots of the Provence cane, or *Arundo donax*, and of comfrey.

Borage tisane.—Borage leaves twelve grammes, boiling water one litre. Infuse for an hour, and strain. In the same way prepare tisanes from the leaves of mugwort, capillaire or maiden's-hair fern, vernal speedwell, blessed thistle, chicory, fumitory, orange-tree, parietory, wild pansy, soapwort, scabious, scolopendra, brooklime, senna, rupturewort, and various species of veronica.

Hyssop tisane.—Hyssop leaves eight grammes, boiling water one litre. Infuse for an hour, and strain. Proceed similarly for tisanes from the leaves of calamint, ground ivy, horehound, balm, marjoram, and sage. Here we are in the category of aromatic herb drinks; and why need a man die whose garden gives him sage? *Cur moriatur homo cui salvia crescit in horto?*

Tisane of arnica flowers.—Flowers four grammes, boiling water one litre. Infuse for an hour, and strain through a thick cloth. The same preparation for tisanes of Roman camomile flowers, field-poppy, feverfew, and elder.

Mullein-flower tisane.—Mullein blossoms eight grammes, boiling water one litre. Infuse for an hour and strain. The same for tisanes of flowers of the little centuary, marsh-mallow, hop-mallow, cat's-foot, red roses, lime-tree, colt's-foot, violets. All these are tonic and mucilaginous bitters, excitants of perspiration.

Aniseed tisanes.—Seed eight grammes,

boiling water one litre. Infuse two hours, and strain. So also are prepared tisanes of juniper berries, bitter orange peel, and linseed.

Prune tisane.—French plums sixty grammes; cut the fruit in two, and boil them an hour in a sufficient quantity of water to make a litre of tisane; strain through a sieve. Thus, likewise for tisanes of dates, figs, and jujubes.

Rice tisane.—Boil fifteen grammes of rice, till it is cracked and broken, in a sufficient quantity of water to make a litre of tisane; strain through a coarse sieve. The same mode serves for pearl-barley and oatmeal.

Veal broth.—Fillet of veal 125 grammes, river-water one litre. Cook over gentle heat, in a close-covered vessel for two hours; strain the broth when cold. The same for broths of calf's lights, chicken, fresh-water crawfish, tortoises, and frogs, to which list many would add snails, and even snakes.

Note that several of the above-named simples, as borage and marsh-mallow, often produce, when administered as tisane, a loading of the stomach, or a nausea, which the doctor may be tempted to attribute to causes unconnected with plants of so little activity. This inconvenient and injurious effect is owing to the stiff bristles found on borage, and to the cottony-down on the calyces of the mallow. These substances, if allowed to pass into the tisane by the employment of a coarse strainer, irritate the stomach mechanically. All tisanes from downy plants should, therefore, be strained through several folds of fine cloth, or, better, through filtering-paper.

Let me add to the above, that it is better to make tisane in small quantities, as wanted, just as you would do to have a delicate-flavoured cup of tea. If the flowers or herbs remain too long in their infusion, you extract from them *more* than you want—bitter and rough principles belonging to the herbs, which are better left behind. Quick-drawn tisane, like whiskey from an illicit still, is good, because it is made in a hurry. Only the most volatile and aromatic particles enter into combination with the liquid so prepared.

And now, ailing reader, that you are able to doctor yourself, I beg of you to make a reasonable use of your knowledge, and not to fall into any pernicious excess. The French are actually fond of tisanes, and drink enormous quantities for the mere love of the thing. I have heard of hyprocritical people visiting their sick friends, not through any real sympathy, but from the selfish motive of sipping their tisane. In the north of France the passion is restrained within moderate limits; but in the south there are hypochondriacal monomaniacs who keep the tisane-pot stewing Sundays and working-days, from morn till midnight. They change the materials of their tisane several times a day, injure their stomachs, disorder their digestion, upsetting every intestinal function, till they make themselves really and seriously ill, at which they drink more and more tisane, running the round of what is called "a vicious circle." For such doleful sufferers the most fortunate event would be to have their tisane-pot blown up by a schoolboy's squib, and to find their bitter draught replaced by a tender mutton chop and a bottle of old claret.

E. S. D.

THIS SEASON'S ROSES.

We are now reaping the results of the very remarkable season which has just now passed over us; and it must have become obvious to the most cursory observation, that while many of the vegetable tribes have suffered much deterioration from the excessive wet and cold of the month of June, others have luxuriated, and are bursting into the richest and most exuberant display of foliage and flowers. May we not, from the mighty and very unusual operations which have been going on in the world of nature, learn some lessons from His method of proceeding, "who is wonderful in counsel, and excellent in working," which we may apply for the production of like results, when natural causes do not operate to the same extent, or in the same manner as in the course of the present season?

One of the most obvious and satisfactory results in the floral world is the unusually rich development of the rose. Everybody who has cultivated the rose for any length of time knows that it delights in an abundant supply of moisture; but in supplying this artificially we have not, perhaps, began soon enough; we have left it until the blossom has begun to make its appearance, whereas the experience of

the passing season will teach us the necessity of applying water to the roots of our plants as soon as they begin to break into growth. It will very often happen that throughout the month of May and the early part of June, a dry, cold atmosphere will prevail, with a lack of sufficient rain, and, with all our watering, we shall not be able to imitate the cool, moist atmosphere of May and June of this year, which has unquestionably had a very large share in inducing the extraordinary growth and blossom of the present season. In few words, let deep trenching, heavy manuring, and an early and persistent application of the watering-pot be used, and I doubt not but that a satisfactory bloom will invariably ensue.

A case in point may not be out of place here. When I was under-gardener, some twenty-six years since, in the garden where I served in that capacity was a low corner, which always lay under water in the winter season, so that it could not be dug in the usual shrubbery digging. In this corner, within a belt of tall laurels and other evergreen shrubs, were planted a few common roses, consisting of common China, old cabbage, and the old Quaitre Saisons rose, and we invariably remarked, that we had the finest growth and the finest blooms here. The soil was a stiff loam, almost clay, and the atmosphere of the nook, owing to the surrounding belt of tall evergreens, was always comparatively still and moist. A friend of mine, who was very fond of the red China rose, used to water every day from the time they began to grow, throughout the season, the result was extraordinary development both of growth and bloom. A favourite dose for his roses was good strong soapsuds. W. CHITTY.

Stamford Hill.

CUERO GUANO.

I THINK the preposterous price (small quantities are sold at one shilling for the tin of four pounds) prevents it coming into more general use for small gardens. A tin does not go far, but one shilling for four pounds is the price of genuine "Peruvian," while the Cuero is eight shillings and sixpence per cwt. This is rather too great a stretch for taking only a small quantity. The patentees would find their account, in making it up into seven or fourteen-pound bags, at a slight advance on the price per cwt. Perhaps a hint in the right quarter might prevail.

HORSA.

REMINDERS FOR AUGUST.

Auriculas to be repotted, in rich, well-mellowed soil, and kept rather close till they make fresh growth, then give air gradually.

Azaleas to be set out in a shady place to ripen their wood, and keep them supplied with water. This is a good time to train out plants for exhibition next year.

Bedding plants to be struck in quantities. Geraniums do best in the full sun in the open border. Verbenas may be struck by pegging down the joints over thumb-pots. (See p. 127 of June number of FLORAL WORLD.) Lobelia speciosa need not be struck unless it is required in very large quantities, and to be in flower early next year. For ordinary work, sow seed in January or early in February. The splendid beds of Lobelia at the Crystal Palace are partly from cuttings and partly from seeds.

Conservatory to be kept gay by introducing a few specimen plants in good positions. Keep climbers regularly trimmed, and encourage the ripening of the wood of all hard-wooded plants, to insure plenty of bloom next season.

Cinerarias to be potted off from stock suckers, and offsets; prick off seedlings; suckers not rooted to be put in as cuttings round the sides of pots, where they will make roots in a week. Beware of slugs and woodlice, which are tremendously fond of the young plants.

Chrysanthemums to be kept in order by tying out. It is too late to stop plants for out-door blooming.

Dahlias are only second-rate this season, and much injured by the heavy rains. Thin the blooms, and tie out the growth regularly, or they will spread about, and get snapped with the wind. Set traps for earwigs, and use the sulphur-duster if there is any appearance of mildew.

Fuchsias struck now will make nice plants to bloom early next season. To

keep beds in bloom, remove the berries, and shorten in any too vigorous growth; the side-buds will push and flower soon after.

Geraniums that have been cut down to be repotted when they have made new shoots an inch long; put them in as small pots as will take their roots, to allow of successional shifts as they require them.

Hollyhocks to be looked over, to see if the ties are too tight; sometimes they get crippled by the swelling of the stem causing the ties to pinch them, where carelessly tied in the first instance. See that they are safely staked, so as to withstand storms.

Hardy shrubs and herbaceous plants may be propagated now in quantities from cuttings and divisions. Use a liberal admixture of sand, and choose a shady plot of ground for the purpose.

Roses of almost every kind will strike now from cuttings. Continue budding, and, if possible, choose dull, moist weather. If the weather is dry and hot, bud in the evening, and tie a laurel-leaf over the insertion to give shade.

Kitchen Garden to be looked over; to take stock of winter greens. Make sure of enough at once, and get every spare plot planted with kale, Brussels sprouts, and collards. Many of the weakest plants left over from the first planting out will now come in to make succession beds. Sow cauliflower to winter in frames, cabbage for spring use, also succession lettuce, saladings, turnip, and winter spinach. Sow cucumbers for fruiting in winter. If short of parsley, sow immediately, and it will be strong in time to stand the winter. Earth up celery as it requires it, but not in too great haste, as the earthing-up checks its growth.

Greenhouse.—Sow annuals for blooming early next spring. Take cuttings of salvias, double petunias, heliotropes, hydrangea, calceolarias, and all the slow-growing variegated geraniums. As the houses and pits will soon be heavily stocked, see that flues, pipes, boilers, etc., are all right, mending broken glass, and have every inch of wood-work, paving, etc., made clean and tidy.

Vines that have ripened their fruit to be cleaned. Where grapes are hanging, give plenty of air, and keep the houses rather dry.

Fruit Garden.—Encourage in every possible way the ripening of the wood of the season. If any trees have been allowed to get crowded, thin them a little now to admit the sunshine amongst the well placed shoots and spurs. Windfalls to be sent into the house every morning for immediate use. Gather fruit in dry weather, and, as a rule, not till quite ripe.

TO CORRESPONDENTS.

Worms in Potting Compost.—*J. N.*—There is one infallible method of treating potting stuff if suspected of containing vermin of any kind, and that is to make the pots ready a day before they are to be used, and water the soil in them with boiling water. Scald also as much as you will want for filling in. Next day it will be none too moist to work with, and there will not be a live creature in it. Don't use coal-ashes in your potting stuff any more; that is just the way to spoil it. A dose of boiling water round the wood-work of the bin will clear away wood-lice, and as for the stuff heaped up in the open air, earthworms will do it more good than harm, as long as it lays together. Earthworms should never be ruthlessly destroyed: they are appointed by nature to ventilate the subsoil by boring in it channels for the admission of air. On grass they may be ejected when troublesome by means of lime-water.

Ants in Frames.—*E. A. W.*—A pinch of guano will flit ants instanter, and of course will not hurt the plants. Woodlice may be trapped by means of boiled potatoes placed in small flower-pots, and covered with moss. Every morning the vermin must be shaken out and destroyed unless you have cage birds to eat them. A small piece of plank, laid flat on the soil, is as good a trap as any.

Shady Greenhouse.—*Thornbury.*—You may keep ferns nicely in your little shady house. Calceolarias might do there during winter, and a few other bedders, perhaps, such as petunias and verbenas, but we should fear their being drawn very much before spring. The less heat the better, provided you kept away frost.

Vines Swelling their Fruit.—*Subscriber.*—We dare not venture to say "how often a vine border should be watered." In some places vine borders are never watered, and in others they must be watered frequently, or the vines would fail. Anyhow, the roots must be kept thoroughly moist from May to the end of August; and, during June and July, an occasional good soaking with liquid manure will be sure to do them good. By all means syringe them well and frequently until the fruit is beginning to ripen, when they must be kept drier. If there is fly on them, give a tremendous smoking, shut the house up, and next morning syringe them liberally, and let them have plenty of air.

Salvia fuchsoides.—*J. R., Tipperary.*—We have endeavoured to spell out the name of the

plant respecting which you make inquiries, and our nearest guess is Salvia fuchsoides. We do not know any salvia so named. Will you kindly write again and put down the name in legible printing characters with a stumpy pen? Some of our letters take longer to read than to reply to.

CAMELLIAS TO BE PLANTED OUT.—*Novice.*—Camellias may be potted or planted out in a conservatory border at any season, except when they are in bloom. When done flowering and when done growing are the seasons usually chosen by gardeners. As yours are poor and lanky, and the season is very far advanced, we advise you to plant them out at once, and not to cut them at all. Next season let them bloom but moderately, that is, thin away the buds if they make many, and leave only a few to expand, and as soon as the bloom is over prune them into shape and keep them warm, shaded, and moist, and you will get breaks to fill up the blanks. It is too late now to get new growth, but if turned out their roots will go to work to prepare them for growth next season. Your letter came to hand on the 15th of July.

CUTTINGS OF ROSES.—*G. St. J. B., Gosport.*—Your sketch I is better than 2, and the incision *b* better than the incision *a*. There is no absolute necessity for compelling roots from a bud, though a bud will give them quickest. Any part of the stem will produce roots, whether close under a bud or midway between two buds. Fig. 2, at p. 152, needs no amendment or correction; there is only the thickness of a knife-blade between the base of the cutting and the lowest of the buds, and it is better to leave as much than to cut so close to the buds as you propose, because by your plan the bud would be in danger of injury from the splitting of the base. Short ripe shoots taken off with a heel strike quickly; but the shoots of the year, which make the best plants, are generally too plump and too long to be used as cuttings in their entirety.

TOMATOES IN POTS.—*A. B.*—You need not fix on any arbitrary number of fruit. If the plants are strong in eight-inch pots, they may be allowed to ripen twenty each; if in five-inch pots, eight or nine are as many as they will produce to be good. The only advantage of growing them in pots is to insure their ripening, which in many places would be doubtful if in the open ground such a cold season as this. If in pots, you make sure of them, and they take up less room. By "no succession of blooms" is meant, that when as many as are required have set their fruit, all succeeding blossoms are pinched off to throw the strength of the plant into those that are swelling. Give them plenty of manure-water.

MELONS FAILING.—*Constant Reader.*—The failing of the fruit may be through deficiency of bottom-heat, or through want of moisture at the root. Strange to say, melons are generally good this season. We saw the other day, in the garden of Mr. Hodgkinson, at Sydenham, Scarlet Gem and Scarlet Flesh well-covered with fruit, in a frame where the heat failed altogether. At the last show at the Royal Botanic they were good. You must always secure good foliage, or you cannot have fruit; see if yours are infested with green spider, or if the plants are half-starved.

EMIGRATION TO NEW ZEALAND.—*R. R.*—We believe that New Zealand will hereafter be the most flourishing of the offshoots of the old country. Here is an extract from a private letter from a young man (a sailor) who has seen every country in the world, and is now settled in New Zealand. He says:—"I have got a good situation as cook at the Royal Hotel, wages £76 a-year, with board and lodging, and a nice little cottage for us to live in. I shall be able to make about £3 to £4 per week also. Most of our passengers have got employment, and the country is a splendid one. I was on a beautiful farm yesterday, and the master told me he landed with only £10 in his pocket nine years ago. He has now fifty acres of land, for which he gave £15 an acre; he would not take £200 per acre for it now. Plenty of money to be made, and should advise anyone to come out. I was told yesterday by a gentleman that a fortune might be made by opening a store at a place called Salt-Water Creek." * * * The latter is dated March 28, 1860.

OXALIS LOBATA.—*N. S.*—You do not say if the plants are in pots or the open ground. We suspect they are doing badly through ill-treatment the previous season. They ought to have a compost of equal parts peat and loam from rotted turves, and a half part each of old cow-dung and silver sand, started in a mild dung-bed in March, and after that treated the same as primulas till they flower, then to go dry, and not to be turned out of their pots till the March following, when they must be repotted, and set growing again. Your selaginellas want more moisture, more shade, and are probably in too dry an atmosphere. In a draughty place they are sure to lose their beauty; a close, moist, warm air is what they all require. When grown in dwelling-houses, it should be under bell-glasses.

NAMES OF PLANTS.—*A. B.*—Yours is the true Allyssum saxatile.—*M. Jackson, Sydenham.*—Your beautiful white flower is Spirea filipendula flore-pleno.—*E. W. H., Wisbeach.*—1 is Weigelia rosea; 2, a Capritolium, perhaps Douglasii, but too much shrivelled for us to determine; 3, Berberis fascicularis.—*M. E. A.*—Digitalis ferruginea.—*M. S.*—Your fern is Polystichium lobatum.—*Subscriber, Enniscorthy.*—Lychnis maritima pleno.—*G. St. J. B., Gosport.*—A is Spergula saginoides; B, Sagina procumbens. The true Spergula pilifera is not a native of Britain.

FOUR QUERIES.—*Horsa.*—1. Reine de la Guillotière rose, is a hybrid perpetual, flowers dark purple crimson, large and full, a vigorous grower, and forces well. It is rarely good out of doors, and is not entered in any of the modern rose catalogues. Madame Guillot is a hybrid perpetual, flowers deep rosy pink, and quite distinct from the first-named. 2. Princess Augusta is a hybrid of Rosa Gallica and Rosa Indica, and is commonly known as a hybrid China. It is a free grower in climates that snit it, and makes a fine pillar rose. 3. Ants do not injure plants directly, but indirectly; by mining the soil, and making intricate galleries, they often cause considerable annoyance. Earthworms do not feed on living vegetable substances. As a rule, they are very beneficial to the soil, and should be destroyed only when an exceptional case occurs. 4. Wireworms and woodlice are among the most destructive of all garden pests. Where they abound, no safe progress can be made in horticulture. It is rarely they injure the roots of trees, as their proper food is pulpy vegetable matter, such as carrots, potatoes, etc. The worms you describe are small specimens of wireworm. 5. We have never used Cuero guano, but have heard many favourable accounts of it. The best way to use all such preparations to roses, is to mix them with wood-ashes, as a top-dressing.

VARIOUS.—*P. S., North Devon.*—There would not be sufficient demand to justify it.—*H. M. G.*—Some day we may attempt it, but not at present. Your second request we have complied with.—*F. H.*—Any of the strawberries named in Madame Vilmorin's list can be had of the nurserymen who advertise in this work. M. Vilmorin's nursery is at Paris.

THE

FLORAL WORLD

AND

GARDEN GUIDE.

SEPTEMBER, 1860.

COLOUR IN GARDEN SCENERY is less studied in the strictly horticultural sense than as a matter of art. There may be many horticultural objections to the unreserved adoption of the principles laid down by Chevreul, and some positive objections arising out of strictly artistic considerations; nevertheless, we may, if unprejudiced, find those principles confirmed in the main in the examples set before us everywhere in public and private gardens. The remarkable character of the present season, too, affords a peculiar opportunity for a consideration of the laws of colour; and while the plants remain on the ground, we may take note of their several capabilities for effecting certain combinations predetermined in the mind, as those which will give pleasure to an eye educated in harmonies of colour and contrast. Taking the system of bedding at Sydenham this season as one of the best examples anywhere set before the public, and giving Mr. Gordon praise for the accomplishment of more agreeable effects than have ever been attained in those gardens by his predecessors, all who view the planting with artistic eyes must see defects that cannot fail to be instructive. Looking down from the upper terrace on the beds round the fountain basins, the predominance of yellow in the chain patterns is anything but agreeable, because the yellow shows itself, *en masse*, not as a relief to its complementary, but as an incongruous element in company with a great breadth of the green turf. Yellow and green are admitted to be out of harmony with each other, unless the mingling of the two closely related colours in the eye is prevented by the addition of a suitable colour in sufficient proportion to enhance the distinctness of both. In this garden calceolarias rarely succeed, though they have always been largely planted. In 1857, it was with difficulty they were kept alive, and the frequent patching of the beds with plants from the reserve was visible all through the season. The excessive moisture of 1860 has done for calceolarias there as it has in all private gardens, given them a vigour of growth and

bloom such as they have not had for four years past. While the yellow in these and other beds has been fully brought out, other colours, through the peculiarity of the season, have been weak and ineffective; and at no time so opportunely as the present could we take note of the value of foliage as a means of giving tone and contrast, as well as positive colour. The links in the chain pattern and the edgings of the beds being of Mangles' variegated geraniums, save the calceolarias from being utterly obnoxious, and do something towards robbing the mixture of scarlet and yellow of the vulgarity inherent in it. The band of scarlet geranium round the calceolarias is a combination we have been compelled to get used to, for it is the one most depended on for effect in most private gardens. The variegated edging here saves it from being a downright abortion, but does not bring it within the category of good colouring. The centre of the terrace is in better taste all through. The best colouring ever accomplished in the history of the bedding system is that of the circular beds round the araucarias. An inner circle of cerastium, a broad circle of blue lobelia, and an outside edging of cerastium, produce an effect as remarkable as it is delightful for its grace and chastity. A vulgar-minded colourist would have ventured on something more gaudy for the outside edge, and would never have thought of the gray line inside at all, but in this broad zone of blue enclosed within and without by simple lines of silver all the artist is made manifest. If we look right and left from these beds, it becomes evident at once that their purity of colouring is enhanced by the pink and scarlet of the pedestal beds. Cottage Maid and Christine are admirably placed, and there is originality as well as accuracy of harmony in the whole of the colouring of this portion of the terrace, with the sole exception of a blue verbena outside Lady Plymouth. This geranium is not silvery enough to bring out the blue of the lobelia, and the lobelia not blue enough to give distinctness to the gray leaf of the geranium, and the combination is in every sense a mistake. The line of beds at the foot of the grand terrace are admirably planted, and the new tropœolum Triomphe de Hyris in the circular beds makes a novel and conspicuous feature. This is a variety which will be much prized; the flowers are large, canary yellow, with dark spots; the flower-stalks of exactly the right length to cause the flowers to lay, as it were, on the surface of the foliage, and the bloom most abundant. The oblong beds are of Crystal Palace geranium, with Purple King verbena outside the geranium, and an edging of Flower of the Day, and these alternate with the circular beds of Triomphe de Hyris and Tropœolum elegans, the last-named being as good this wet season as at any former time, but the verbenas everywhere being in a state of unutterable poverty.

On the rose mount at Sydenham the calceolarias do their share of mischief more flagrantly than on the terrace, for there are some circular beds on the outer circumference, consisting of calceolaria only, and so placed as to stand apart from other colours that might assist them, fighting it out in their own way with the breadth of green turf that surrounds them. There is Salvia patens, too, beautifully in bloom, rather thinly planted; a very decided blue in the midst of a decided green—one of the most valuable bedders we have, made to look ridiculous. With these exceptions, the planting of the rose mount is all that could be desired for boldness and correctness of contrast, and for agreeable harmonies. There is a bed of variegated geranium mixed with Chenopodium atriplicis, a purple-leaved

annual of the beet family, that we have frequently recommended. The chenopodium is kept to its proper height by topping, and the young side-shoots have a tinge of deep crimson that considerably relieves the blackish purple of the full-grown leaves. Perilla nankinensis wants this same decided touch of crimson, or else a deeper tone of black in the leaves, to render it easy of adaptation as a dark agent in garden colouring. Among the beds on the mount that deserve to be specially named as good are the following:—At the angles of the walks, Cottage Maid geranium, edged with Flower of the Day; Purple Nosegay geranium, with the same edging; Calceolaria amplexicaulis, mixed with ageratum, and edged with variegated ageratum, most beautiful; Punch geranium, edged with Cerastium tomentosum; Ignescens superba geranium, edged with variegated alyssum. Along the walks which form the radii of the mount are, among others, the following:—Alma geranium, mixed with the scarlet variegated verbena, Imperatrice Eugenie, and the verbena with much more colour than it usually has, for it is one much given to make herbaceous growth; Sidonia geranium, a bold flowering, fiery hybrid (which every amateur should possess), edged with Ivy-leaf geranium; Ignescens superba and King Rufus geranium, the latter a high salmon colour, edged with Ignescens minor; Dandy and Lobelia speciosa, mixed all through, a charming effect; Flower of the Day and variegated alyssum mixed all through, and though undoubtedly good—each helping the effect of the other—scarcely bearable in bright sunshine. Last summer this mixture was used at the lower angles of the walks, and was so dazzling that it was scarcely possible to see quieter colours till some time had elapsed after quitting the spot. Mangles' variegated geranium and Purple King verbena plant for plant, which might be good in a bright season, but at present is not so. The Crystal Palace geranium and Tropœolum elegans play their part here richly, and with Punch and Sidonia give the most decided colours. Tom Thumb is not now used at all. Within the rose temple the planting is as good as elsewhere. The four beds round the flag-staff are superb. They consist of Fothergillii geranium in the centre, two rows of Flower of the Day, one row Crystal Palace, and an edging of blue lobelia. The six compartments forming the bank of the rose temple is in the best taste of high colour for so important a position.

Just as the Chenopodium has fell into good hands at Sydenham, Perilla Nankinensis has had good fortune at Kew. We want more of this class of foliage plants for bold colours, and, in hot seasons, some few stove plants would prove valuable in bedding. The perilla is everywhere grown in private gardens, but in very few cases rightly used. A ribbon line of it, contrasted with gray or white, is miserable, and much more like a funeral procession than a colour-agent in gardening. It attains its highest perfection under the deep shade of trees, as we have proved this season at Stoke Newington; and in such a position, where geraniums might fail of bloom, calceolarias would succeed admirably, and give the very colour perilla needs to render it effective. In the promenade beds on the line of the walk from the terrace garden at Kew, there are some circular beds, consisting of Prince's Feather for the centre, the better for being dwarfed by want of ground heat, perilla round the Prince's Feather, and Calceolaria aurea floribunda outside. Lower down is an oblong bed of perilla, edged with Fothergillii and Mrs. Vernon geraniums, which bring out the black of the perilla most effectively, just as the orange calceolaria brings out its

purple. One of the mistakes here consists in the use of Tom Thumb nasturtium, which detracts most lamentably from the general high tone of the planting. This is compensated for higher up by a better use of the blue salvia than at Sydenham. It is trained down with heliotrope, and edged with dwarf calceolaria, and though still open to objection if severely criticised, is, nevertheless, too good to be found fault with. How the commonest things may be turned to account, as means of reflecting light on masses of colour, as well as giving neutral tones for relief, take note of the circular beds planted with humeas in the centre, Prince's Feather round them, and a bold edging of the common ribbon grass, or Gardeners' Garters. The variegated mint, another of the commonest of ribbon plants, is here used with unequalled taste and judgment. The uses here indicated of the perilla and chenopodium, with both of which it is so easy to do wrong, and yet so easy to do right, suggest to us the necessity that exists, in spite of the variety of bedders at our command, for other tints of crimson, purple, and red, in foliage for bedding. Have you not, many a time, left a few pots or pans of Love-lies-bleeding in an odd corner of a pit or frame, after having planted out sufficient for the season? Those pans were, perhaps, crowded with small plants in very sandy compost, and for fear a few might be wanted, they were not destroyed, and, not being wanted, were neglected. Starvation caused them to bloom at three or four inches high, and the foliage and flower-spikes were then of one uniform crimson tint, and as beautiful in their way as the best examples of furnishing plants in the beds and borders. Just such plants as those starved amaranths are what we want for ribbon lines and beds in places overshadowed with large trees; and on poor, hungry soil, in a hot season, Love-lies-bleeding would probably make a second or third row of crimson foliage of the most effective character if properly contrasted. We have a similar class of colouring in the deep coloured short top-beets that have hitherto been admitted only to the kitchen-plot; but it would create a feeling of revulsion in most horticultural minds if we were to propose the use of a highly coloured beet for the third or fourth row of a ribbon, or for the centre of a circular bed, with Golden Balm or Golden Chain geranium in front of it. Yet we have seen one such example in a private garden this season, where a ribbon, under the shade of trees, consisted of Golden Balm, Perilla, Golden Chain, and crimson short-topped Beet, each in a line fifteen inches wide, making a five-feet ribbon. We thought the chenopodium would have been better than the beet, but the effect was, nevertheless, such as no horticultural critic could dare to challenge roughly. But the range of subjects for bedding enlarges rapidly. A vast number of our choicest stove plants prove as adaptable to our out-door climate as did the Aucuba japonica when it went from the stove to the greenhouse, and then to the open garden, and so ceased for ever to be dealt with as an inmate of the hothouse. All the new begonias, with their grandeur of form and their splendid tones of bronze and silver and Tyrian dye, grow in the open air as thriftily as burdocks, and keep over winter in cool houses as easily as geraniums, if rather dry. We may yet see Caladium Chantini in circular beds, wondrous to behold; Marantas on banks and rockeries, and a hundred other things that are as yet carefully kept under glass or canvas all the summer through, luxuriating in beds and borders, and the great specimen plants in pots turned to account on terraced rockeries for the construction of extempore tropical gardens. A semicircular bank of earth, made up in the

fashion of a greenhouse stage, the shelves of tile or stone, or coal ashes, with rough rockery in masses to hide the pots, would be a new and pleasing feature as a garden decoration, and serve at the same time as a means of ripening the wood of large furnishing plants, instead of hiding them away among the pits and sheddings. But here we are opening the way to quite another subject, which must have detailed attention at a future time.

Plant at once anything and everything in the way of hardy trees and shrubs. There is no real occasion to wait for the fall of the leaf where it is possible to get plants quickly from the nurseries, or where they have only to be removed from one part of a garden to another. It is a good rule to wait for the fall of the leaf, because most trees and shrubs required for private gardens have first to travel long journeys, and if taken up before the plants get to rest, by the descent of the sap, they may suffer exhaustion; but in all cases where the distance between the plots they occupy and those in which they are to be planted is short, this is a better time than at any other in the year. To encourage the timid in the early removal of trees and shrubs, we can say that we have been performing such operations during every month since March last. Standard and dwarf roses planted then have done amazingly well, both as to growth and bloom. Americans put in in March, after flowering magnificently, have made extraordinary growth, as they have indeed wherever they are doing any good at all, owing to the wetness of the season. In some places they are making a second growth, to the ruin of next year's bloom, and in some the bark is splitting along the stems through the gorged state of the sap vessels. Every tree and shrub in such a condition will be the better for lifting, even if it is simply taken up and put into the same hole again; the check will help to ripen the wood, and enable them the better to endure the winter. On the 31st of July we moved a long row of evergreen shrubs, including Minorca holly, Berberis fascicularis, intermedia, Nepalensis, Darwinii, Fortuni, and dulcis, several daphnes, Prinos lucida, and Americans of many kinds. On the same day we moved a number of deciduous trees and shrubs, including Pavia coccinea, a fine specimen, five years from the graft; Spirea prunifolia, Rhus cotinus, and a lot of perpetual, cabbage, noisette, and China roses. The roses were in full bloom; not a bloom was removed, and, of course, they were not taken up with balls. They did not flag an hour, and are now loaded with blossoms as if nothing had happened to them. This is an exceptional season, but what we did in July, 1860, may be done any year in September, provided that in case of hot dry weather setting in, the moving is deferred for a week or so till more favourable; or if determined on, in spite of hot weather, proper precautions are taken to secure the roots from being exhausted, and a little syringing adopted over the foliage until rain comes. This season there will be no need of syringe, and no need of water at the root. All the trees and shrubs operated on as above described are now in most perfect health, and will have abundance of new fibres long before winter, and next year be just one season in advance of those planted in the spring. There are many fallacies prevalent as to planting trees and shrubs. Most evergreens move with good balls, and there is no need to injure the roots at all. But good balls are by no means essential, and it

is often better to strip the roots entirely, and in planting to fill them in with rather dry, crumbly stuff, which will run in among the fibres; or, better still, use sweet gritty leaf-mould. Take an example: some years since we had to plant a lot of Cedrus deodara, and as they came from the nursery with good balls of peat, so they were committed to their places, well trodden in and liberally watered the whole of the following season. They did badly, the points of the shoots turning brown here and there. One was lifted, to see what might be amiss. The original ball was as dry as gunpowder, the roots in the ball were as dead as the megatherium, and the plant had begun to push out new roots above the ball into the yellow loam in which they were planted. Forthwith they were all taken up, and all found in the same state. The dead roots were cut away, the worn-out peat—now become sour—was removed, and they were planted in the loam again, and left to shift for themselves, with their newly-formed surface roots. They made a start at once, have never since exhibited any sign of distress, but have made magnificent growth. Had they been left to form their roots over the old balls, the probability is that the dead roots would have become infested with underground fungus, which would have crept upwards to the new roots, spread over them, and killed the trees. Then, perhaps, the nurseryman and not the planter would have been blamed, for the nurseryman has to answer for nearly all the sins of gardeners as well as for the consequences of bad seasons, bad soils, and unsuitable aspects. Hollies, Portugal laurels, common laurel, and sweet bay are among the subjects that suffer severely by removal, even if moved with the greatest care. At this time of year they move with the best chance of success, and in such a season they ought not to lose a leaf from the time of taking up till they make new growth next season; but, of course, it is as easy to kill them now as at any other time, and the killing process is best pursued by keeping them out of the ground an unreasonable time, planting them in undrained, water-logged, or sour pasty soils, drenching them afterwards till the roots are soddened in a pool, and cutting them about with a pruning knife. Some people adopt such practices, and a few of the plants survive it. What a constitution such plants must have!

NOTES OF THE MONTH.

Kelvedon Horticultural Show.—The second exhibition of the Kelvedon Ladies' Horticultural Society and gala day took place on the 2nd ult., in the beautiful and picturesque grounds of Felix Hall Park, the seat of T. B. Western, Esq. It was in every sense an exhibition creditable to the society and the district. The specimens were placed on long tables arranged parallel in the usual way, the central one being the principal in height and importance. On entering, the eye first rested on some choice bouquets, which carried off the prize without competition. Some handsome greenhouse plants and cut flowers were exhibited by Mr. Mallett, gardener to R. R. Willis, Esq., and Mr. Carter, gardener to A. G. Proctor, Esq., to both of whom prizes were awarded. The fruits and vegetables produced by cottagers were of the best quality, and although it was announced that the disease is spreading as fast as it did in 1845, a finer show of potatoes could not be exhibited; and we heard a well-known and eminent gardener say that the vegetables were fit for competition with the produce of any gentleman's garden. The currants and gooseberries were of immense size, but no doubt the heavy rains have affected the flavour of them. The judges were

H. Dixon, Esq., of Dorward's Hall, and Mr. Rae, gardener to O. S. Onley, Esq., of Stisted Hall, who discharged their onerous duties with great discrimination. The magnificent gardens of Felix Hall were thrown open to the public at three o'clock, and about 2400 visitors availed themselves of the opportunity thus afforded them of viewing one of the most delightful and best laid out gardens in Essex. Among the attractions of the place is a very pretty fernery, laid out in the most tasteful manner, nature having done so much for it that the high art and masterly hand that arranged it has made it the very acme of perfection. Close by is a beautifully trained yew hedge, twenty feet high, surrounding a very nicely laid out plot of ground, containing a splendid display of geraniums, calceolarias, and a very fine specimen of pampas grass, which had suffered from the severity of last winter. The conservatory was well furnished with fuchsias, balsams, and other summer flowers; and amongst them a seedling geranium, named Miss Western, on each side of which stood two elegant vases of variegated hydrangeas. In front of the conservatory were some double petunias, which attracted much attention. We noticed on our egress some very tastefully laid out beds in front of the gardener's cottage, the centre one of which contained some very beautiful Perilla Nankinensis, surrounded by yellow calceolarias. Altogether it was a most gratifying sight, and the superior taste and skill displayed throughout the gardens reflects the highest credit on the gardener, Mr. Bowie, and the increasing number which yearly enters the gardens fully testifies that his abilities and Mr. Western's kindness are truly appreciated by the people. We regret to learn from the *Essex Telegraph* that the society's funds are not in an over-flourishing condition. A very prevalent opinion was expressed that if Mr. Western would allow the committee to make a small charge of admission to his beautiful gardens, the society would receive a sufficient sum to firmly establish the Kelvedon Ladies' Horticultural Society, for the origin of which, and the excellent manner everything has been conducted, the heartfelt gratitude of the people ought to be expressed to the ladies' committee, but more especially to Mr. and Mrs. Varenne, who are always most assiduous in promoting the happiness and prosperity of the inhabitants of Kelvedon.

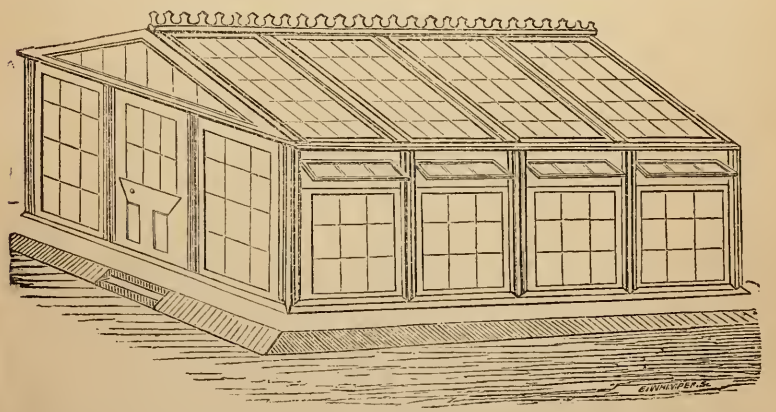
Horticultural Society.—Among the subjects lately submitted to the floral committee, and commended, we have noted the following as worthy of being named here as likely to interest our readers. *Fuchsias.*—Garibaldi, which has been exhibited at some local shows, a large and handsome flower, corolla dove colour, sepals pink, quite a novelty; Prince Leopold, crimson sepals and purple corolla; Lord Elcho, same character as Prince Leopold, but a shade darker; Minnie, white sepals, rosy-pink corolla. These were raised by Mr. Banks. Negro, a dark free-flowering kind, from Mr. Smith, of Hornsey, also promises well. *Pelargoniums.*—Meteor, bright scarlet, good trusses, variegated foliage, dwarf habit, from Messrs. Williams and Parker; Madame Csillag, small, rosy-like. *Miscellaneous.*—Spirea Nobleana, a supposed hybrid of Callosa and Douglasii, flowers rosy-purple, and likely to be a most valuable addition to our lists of handsome hardy plants for mixed borders, and for large beds in public gardens. Clarkia pulchella Tom Thumb, a dwarf variety of the well-known annual from Messrs. Carter and Co., of Holborn. If this keeps dwarf, it will be most valuable; the chief objection to the normal form of this pretty Clarkia being its tall and straggling habit, except when autumn sown, and pricked out in spring by first-rate hands. Dracæna stricta erythrorachis, a handsome member of a popular family, the leaves veined with orange-red, and the whole character of the plant striking and attractive, from Messrs. Veitch. Convolvulus tricolor monstrosus, a bold striped flower, most acceptable as a change for trellises and rustic-work, from Mess Carterrs. and Co., Holborn. *Picotees.*—Empress of India, light edged; Garibaldi, yellow fancy, from Mr. Bragg; Countess of Derby, pinkish purple; Queen of Picotees, white, with

light rose edge, from Mr. Keynes; Favourite, heavy purple edged, from Mr. Turner. Also, a pretty small pink, raised by Captain Trevor Clarke, which proves to be an excellent border flower; the flowers purplish-crimson, and the plant continuing in bloom throughout the season.

Exhibitions this Month.—On Saturday the 1st will be held the National Hollyhock Show, at the Crystal Palace. On the 4th, there will be an exhibition of dahlias, asters, balsams, and hollyhocks, by the East London Society, at Albion Hall, Dalston. The first exhibition of the new society at Sydenham will be held on the 6th. On the 19th and 20th, there will be an exhibition of dahlias and other cut flowers at the Crystal Palace. For other exhibitions and meetings, see the usual list.

DESIGN FOR A REMOVEABLE GREENHOUSE.

It has long been the wish of the Editor of the Floral World to present such of his readers as require it with a plan of a moveable greenhouse or conservatory, which may be easily taken down and as easily re-erected upon a fresh site—a matter of importance to those lovers of gardening who have limited tenures only.

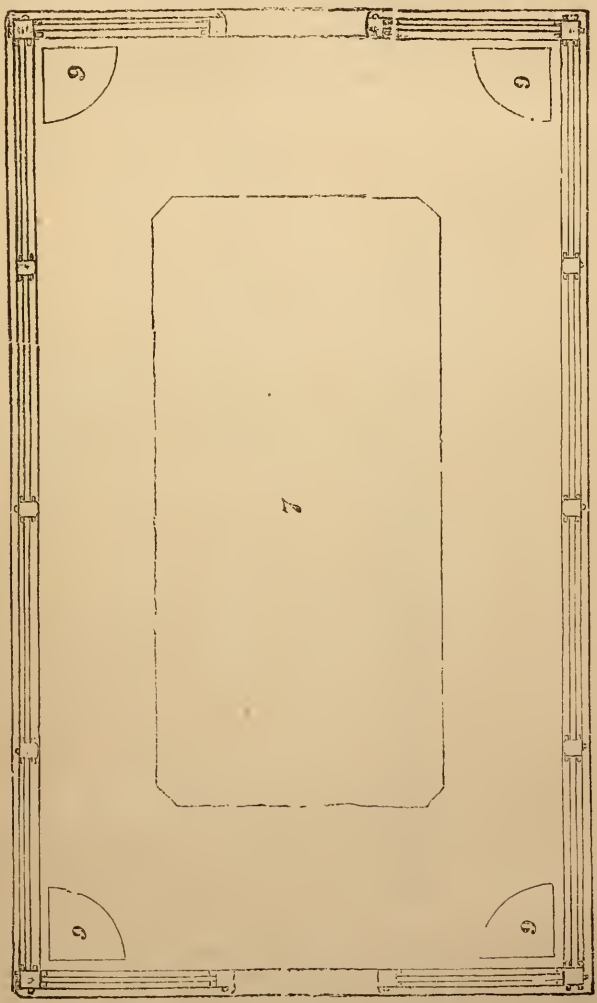


Elevation.

The pressure on the pages of the work, owing to the numerous summer exhibitions, has deferred the consideration of the subject till now. However, here it is at last.

The accompanying elevation shows a detached building set upon a raised platform of earth, to give it a greater apparent elevation, with a gravel walk surrounding it, and two steps placed in the grass slope, by which to ascend the platform. The house is composed of parts that, when taken to pieces, may be easily packed up conveniently for carriage. They consist, first, of the ground sill, which may be of teak, if the expense is not an object, seven inches wide, by four inches in thickness, the four sides of which are held together at the angles by means of irons screwed on with square-headed screws (Fig. 9 *a*). No pegs or nails are to be driven into any of the mortise tenons, but in every part use, in lieu thereof, either the screws Fig. 9 *a* or Fig. 9 *b*. The studs are mortised into the sill, and have a substance of four and a-half inches by four inches; and these again are mortised into the rafter-plate. (See section Fig. 11.) Between these studs (see section Fig. 10) the sashes, *b*, are set up, and to keep them steadily in their places splines, *c*, are braded on to the studs. These sashes may be exactly like those used in house building, without, of course, the accompaniment of boxes and weights. Upon the front of the stud a half-circular moulding, *c*, may be braded to give a degree of lightness to the appearance. Also to the same end, as well as to throw off water, let the sill be bevelled at *d*. Above the sashes are to be hung on pivots, small

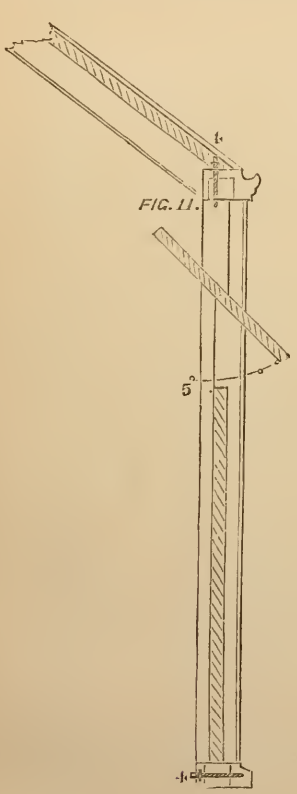
lights for ventilation. These may be opened and kept so by means of a small iron having holes in it, to drop on to a pin fixed in the lower sash (Fig. 11—5). This iron must also have a joint so as to hang down when the ventilator is shut. The rafter-plate and gutter is formed out

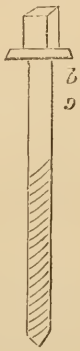


Ground Plan.

of one piece, seven inches by four inches, and the gutter must be lined with zinc or thin lead, to prevent the water injuring the wood. A small lead pipe will convey the water down the inside angle of the building into a drain or tank; the rafters are five inches by three and a-half inches, and have a beading braded on to their under side, and a capping on the top, for the double purpose of keeping the roof lights in their place, and the water from getting into the house; but, in addition to the capping, the lights must have screws (Fig. 9 *b*), commonly known as bed-screws, put through the top and bottom into the ridge-tree and rafter-plate. The rafters and studs must likewise be secured

by these screws, as at Fig. 11—4. In the section, Figs. 1, 2, and 3, show the door stud, the angle stud, and one of the side studs, which are all of one size, the difference consisting only in the putting on of splines and mouldings. The end gable lights may be fixed in their places by means of splines in the same manner as the side sashes. In the same section Fig. 8 represents light iron rods suspended from the rafters, as bearers of light shelves, for the accommodation of bedding plants,





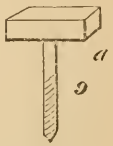
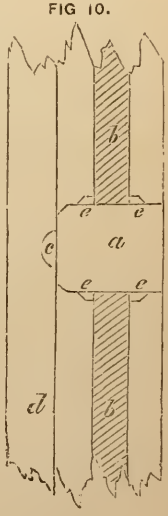


FIG 10.

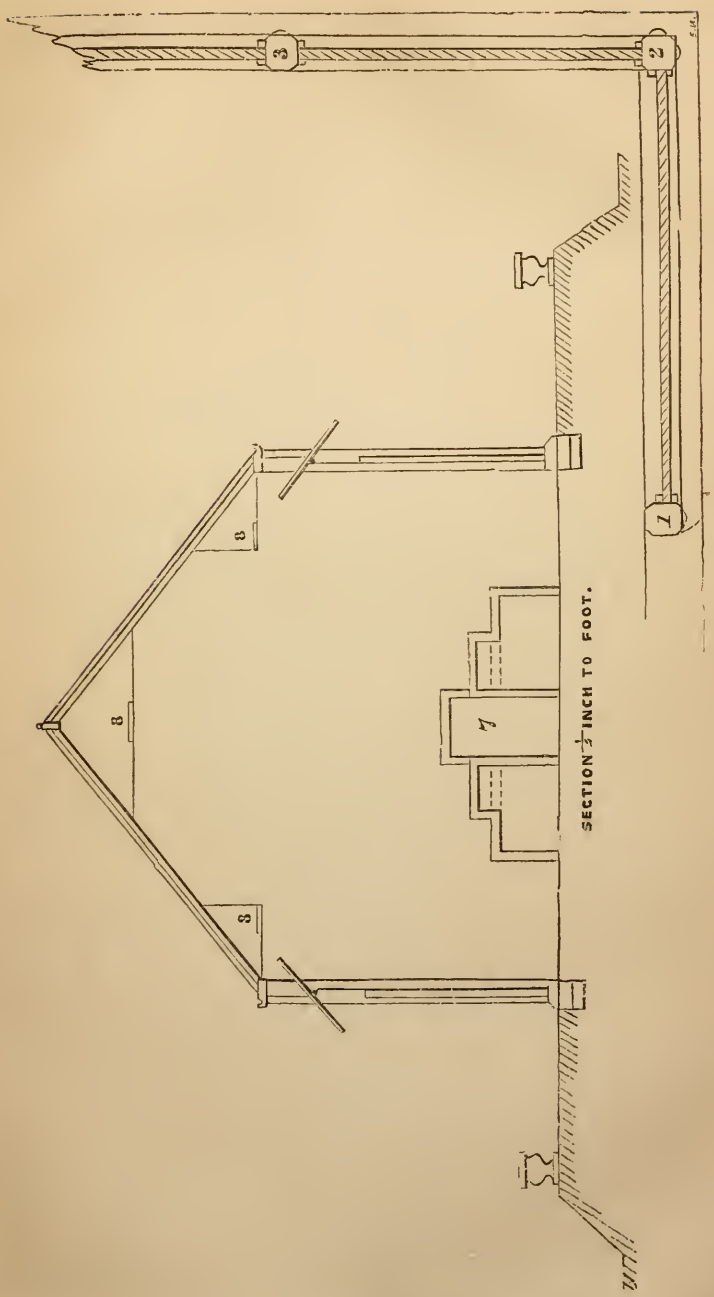


protect the building from damp, and the liability to settle down, to place it upon some firm and solid matter let into the ground, as brick piers or wood blocks, but it will be well for parties leasing ground to make themselves acquainted with the law relating to the subject before attaching their building too firmly to the freehold.*

The heating of a moveable house must also be managed by a moveable apparatus which will be some kind of stove, and

or other small things which require a situation near the glass. Referring to the ground plan, 9, 9, 9, 9, are boxes placed in the angles, in which may be planted climbers, to train over the roof or sides of the building. Fig. 7, stage, which must be strong enough to bear the plants, but may be made in parts, so that it can be removed without having to be knocked to pieces. It will be necessary, in order to which must have a pan on the top to hold water for counteracting the drying effect of such heat; and as artificial heat in such a house as this will only be required in winter, the stove might, for that period,

* A platform of bricks laid on the surface, gives a firm and lasting foundation, provided the subsoil has not been recently disturbed. Whatever is "let into the ground," becomes the property of the freeholder.—Ed.


3
2
1
3
3
3
1
SECTION ½ INCH TO FOOT.

occupy a place near one of the doors, and the smoke-tube be carried through the glass at top of the house. I refrain at present from recommending any particular stove, as I believe Mr. Hibberd has one under trial for the express purpose of ascertaining its property, and will, doubtless, report upon it as soon as satisfied thereof. Should a building of this kind be required for vines, I should recommend the side lights to be reduced to one-half the height, and these to open as here shown for ventilation; the roof lights would then be longer, and a much steeper roof obtained. A small aperture or two at the ridge, capable of being closed by a wood slide, would, with the side lights hung as recommended, effect a perfect ventilation. The walk would, in such a house, be down the centre, and the vines might be planted in boxes, having large openings in their bottoms to allow the roots to escape into a border made up inside the house for that purpose. The planting them in boxes would enable them to bear removal at almost any season.

Whitwell. H. Howlett.

GOOD WORK WITH BAD TOOLS.

NOTES ON THE PRESERVATION OF BEDDING PLANTS LAST WINTER.

However it is, my stock of bedders has nearly escaped the widely diffused havoc, of which an account is given in the April number. The climate here may be milder than about London, and I suppose it is; but the frost of last December was severe enough to freeze strongly, for several nights, water in the bed-rooms, and to destroy potatoes kept in a part of the house which was as well defended from the cold as any part unwarmed by a fire.

The stock consisted of some dozens of verbenas, Mrs. Holford, Purple King, Geant des Batailles, Defiance, and a fine light pink verbena, name unknown; Sultan calceolaria, Aurea floribunda, and other yellow ones, Maggiore, etc.; variegated leaved, hybrid quercifolium, and scarlet geraniums, fuchsias, and a few cinerarias.

The verbenas, three each in a 48-sized pot, were plunged in coal ashes, at the top and sunniest part of the pit; the geraniums next; the cinerarias, fuchsias, and calceolarias being placed in the lower part, and next the front wall, where they were more in the shade, and all likewise plunged.

The back and sides of the pit were banked up last autumn with a sloping bank of earth (as recommended by Mr. H. Howlett, at page 209 of the second volume of the Floral World), which of course made it warmer. When the hard frost came, the calico lights (the calico being on the under side) were filled with littering straw to the level of the wooden sides of the lights, thick rice bags opened out were thrown on, with bricks at the sides to keep them down, trusses of straw were placed against the front wall of the pit, where no earth had been banked against it, and the snow coming on converted the whole into a white hillock, sides and all. When the pit was opened, at the end of the frost, which lasted from a fortnight to three weeks, every thing was right except the variegated geraniums, the points of the shoots of which were damping off, and three or four pots of verbenas, where they were most crowded, or nearest the sides, which were beginning to mildew.

Twice afterwards, during the winter, the pit was thus closely closed up for shorter periods, and with the help of my *hospital* the winter was got through with the loss, on the average, of one plant and a-half to the dozen each of verbenas and calceolarias, and the most of the variegated geraniums.

What I call my hospital is two sunny lobby windows, which was shut off from the draught on the staircase by calico stretched across to the height of one's chin, in a line with the inner surfaces of the walls of the house, in such a manner that the upper part could be taken down to get at the plants. Into these windows I put as many pots of verbenas and geraniums as there was room for without crowding, and they remained there till a thermometer kept in one of the windows fell within a degree of freezing, when, but not before, they were transferred to a room with a fire. This happened twice, I believe, after the long frost in December. (These details are given that you may be able to make a comparison of climate.)

Some of all the verbenas, of which the names have been given, stood there exposed to the above degree of cold without injury;

and the air being dry, with plenty of sun, they wholly escaped mildew, as long as they were in the windows.

When that disease appeared on any of those in the pit, they were taken up, washed with a strong solution of soft soap and water, and afterwards, when the soap was washed off, which was done almost immediately, dusted with sulphur. They were then put in the windows in place of some of those already there, which in their turn were transferred to the pit outside. Twice only this had to be done with half a dozen pots of verbenas, and the whole stock of that plant washed once for green-fly. In both cases the process was entirely effectual; but had I known a convenient mode of thoroughly damping the leaves and stems of the plants before applying the sulphur, I would not have gone to the trouble of washing them for mildew alone, as the application of sulphur to the damp foliage would, I believe, have been a sufficient remedy for that.

The comparative freedom of the verbenas from mildew, which destroyed nearly all my stock of them last year, and of the whole stock from vermin, is, perhaps, to be attributed to two causes. First, the plants were *not* packed as closely together as could be done without touching. On the contrary, care was taken to leave a clear space of a couple of inches, at least, between the outermost leaves of each pot of plants. That this was serviceable was shown by the fact that the plants in the corners of the pit, and those which were crowded together in the pots, were always the first to suffer. Secondly, all the air that could possibly be given was given; that is, the lights were taken off entirely whenever there was not either actual frost or rain. In the latter case, they were frequently rested at all four corners upon bricks, so that a free current of air blew underneath.

Having formerly found that verbenas kept well three in a pot, up to planting-out time, and afterwards turned out well, I intend to keep the whole of them, this year, in the same way up to that period. The calceolarias and cinerarias I dare not treat thus. The first were carefully potted off early in March, when room was made by turning out some cauliflowers, and shifted since; the second have been shifted whenever they required it, in order to avoid a visitation of green-fly and red spider, of both of which pot-bound cinerarias and calceolarias have given me some very unpleasant experience.

I may add, that those verbenas which were dusted with sulphur, were allowed to remain with it on during the winter. They appeared to receive no injury from this, and were not attacked with green-fly as those alongside of them without any sulphur on the leaves were.

Among the variegated geraniums some loss occurred. When they appeared to be suffering, after the frost of December, they were removed to the house, to a room having a north aspect, and a tolerably dry air, but no sun. Here they did very well, both old and young plants, till the beginning of March, losing all their lower leaves certainly, but remaining otherwise strong and healthy. At that time they were transferred to the pit, when every one of the young plants, and most of the old ones, died. Their sojourn in the house appeared to have rendered them even less able to stand a damper atmosphere than when they were in it from the first. It is important for amateurs to remember that the atmosphere of dwelling houses is much drier than that of pits and greenhouses, and variegated geraniums should, therefore, be in pots at least four inches in diameter, larger if possible, to prevent undue exhaustion, when kept in windows. Another time I would wait till the middle of April to take them out, or even the end of that month, if the weather was cold.

It is worthy of remark, that Kinghorn's Attraction, and Golden Chain, can be safely kept, except in frost, in a room without fire-heat, and with a north aspect, where verbenas will not live; this was proved to be the case a previous winter. Verbenas must have sun.

The pit spoken of is a turf one, made according to the directions in the first number of the FLORAL WORLD, except that the walls are nine inches lower all round. It is covered with calico lights, which, as I have previously said, are easily made by oiling calico with common unboiled oil, and putting them to dry in the air. The bottom is a foot beneath the surface, and filled up to the level of that with coal ashes, to plunge the pots in. The experience of the past winter showed, however, that moisture soaking into the pit made the bottom most injuriously damp, although it was on the slope of a hill, and provision had been made, to a certain degree, for drainage, by constructing small drains from the bottom of each light under the front wall. Taking a hint, therefore, from W. Ansell's directions for the management of bedding plants, at page 227, in the second volume of the FLORAL WORLD, I got the bottom cleared out, three inches of

broken stones put in, thin cut sods laid on them, and the ashes returned. After this the place was as dry as could be wished for; and my immunity from disaster last winter was doubtless owing partly to this. In the article above alluded to, a thin layer of coal ashes, upon which to place the plants, is spoken of; but when the trouble is not considered too great, it appears better to plunge them, as they are then not only warmer, but need no watering during the entire winter.

I have found the rice bags spoken of an excellent substitute for mats. They are more manageable, lasting, and warmer, provided the heavy description, for there are two kinds, can be obtained.

ALEXANDER BAYLE.

Pembrokeshire.

AN INVALID'S FIRST ATTEMPT AT GARDENING.—TEA ROSES IN FIFESHIRE.

IN April last I ventured to solicit the Editor of the FLORAL WORLD to give information respecting the mode of raising Solanum capsicastrum from seed, and of treating ericas out of bloom. A kindly-explicit reply appeared in the May number, but little did the courteous Editor conjecture that such simple directions would be beyond the capabilities of my resources.

It now strikes me that, as many of the readers of this excellent periodical may be similarly situated with myself, viz., invalids inhabiting lodgings in a country town, some record of my failures and successes—solely aided by the instructions in the volumes and numbers already published—may not prove wholly uninteresting, while the utility of such a paper would be materially enhanced by the Editor's kindly appending bracketed remarks in answer to queries propounded, or in explanation of difficulties acknowledged.

My apartments are situated in a pleasant midland town, a locality rather characterized by a love of flowers; and in my perambulations, by means of a Bath-chair, I remark numerous flowers I would gladly transfer to my balcony-garden were I acquainted with their habits and the method of culture. However, being resolved this last spring to "make a beginning," I carefully studied the two first volumes of the FLORAL WORLD, and endeavoured to make the most of my little territory. Throughout the winter I had kept plants in my sitting-room, which has a south-western aspect and a large window. Chinese primroses, ericas, myrtles, and Solanum capsicastrum flourished well, as did also a plant of Dracæna and two fine little shrubs of Lignum vitæ; a camellia and a bushy specimen of veronica, covered with spikes of lavender flowers, completed my collection.

Owing to the late frosts, I did not venture to put out my treasures even into the verandah'd balcony till the second week in April, covering them over with Haythorn's hexagon garden net, No. 1 (see FLORAL WORLD, vol. i. p. 90), every evening. Under this treatment all escaped injury, but the ericas began to show a yellow tinge of leaf, and the Solanum to wither. It had been my wish to raise seedlings, which I hoped to do by aid of a room kept warm on account of my illness, and a bell-glass. My only success, however, was with some sweet peas, which I enclosed in a wire frame; these flowered abundantly and well last month, the seeds being sown in February.

On receiving the Editor's reply (see FLORAL WORLD, May number, 1860, p. 111), I removed the ericas from their hot quarters in the sunny balcony to the sill of my bed-room window, having a north aspect; and, subsequently finding the camellia droop, by the directions respecting "excess of light," in vol. ii. p. 125, I judged it prudent to place the plant in the same aspect, the result justifying my expectations.

With regard to raising the Solanums from seed, I still felt lamentably deficient. The only means at my disposal were a seed-pan covered with a bell-glass, and kept in my room for additional heat. But *how* to sow? Were the berries to be planted whole, or the seeds removed from the husk? I chose the latter, and was surprised at the number of seeds contained in each berry. In about a week green specks were visible above the earth, and I already congratulated myself on success; but time sped on, the seed-pan was transferred to the balcony for air and light; there were leaves undoubtedly, but in numbers which began to be suspicious. I had the pan brought to me (being unable to walk I am obliged to garden by deputy),

and, to my disappointment, found, not merely that many *weeds* had come up, but that, not knowing exactly what an infant Solanum should resemble, I could not be sure which was which! At length, I detected one with the husk of the orange-seed adhering, and, guided by this, selected some four or five tiny plants, which I transplanted; but they grow very slowly, and I am not yet sure of their being the genuine seedlings.

My verandah is supported by trellis-work, and I covered it with climbers. These I got from Messrs. Lane, at Great Berkhampstead, with a few more plants—a Kalmia latifolia, a Daphne odorata, Nerium splendens, Clianthus puniceus, Berberis Darwinii, Ceanothus azureus, Bouvardia triphylla, and a Phygelius capensis. Nearly all these the Editor of the FLORAL WORLD will recognize as having a place in his pages. The climbers are—Maurandya Barclayana, Lophospermum scandens, Aristolochia sipho; and to these I have since added a plant of Eccremocarpus scabra. Of these the first two are in bloom, while of the plants above-named the Kalmia flowered luxuriantly (in June), but very briefly; the Berberis was covered with bloom for some weeks, April and May. None of the others show any signs of buds.

My stand is occupied by tiny flowering plants, as geraniums, fuchsias, and balsams; and for the last six weeks it has been gay, unexpectedly to me (as I only knew it as a winter-flower), by Chinese primula, both white and lilac, in very luxuriant bloom, especially the latter. But, whether the others will flower this year, or, if so, at what season, I am ignorant; and any information the Editor will kindly give as to this, as well as hints for the winter management of the plants mentioned, will be very gratefully welcomed.

I should mention that my Draccena was put out with the other plants, and looks healthy and strong, though I saw the plant the other day in a nurseryman's greenhouse, so that I presume it is really exotic. Has it any flower, or is it merely dependent on its lovely crimson leaves for its share of attention?

A friend, some years resident here, is celebrated for his success in floriculture. He attributes the superiority of his bloom of roses to the method he adopts, to a greater extent than usual, of having plants on their own roots. As I might fail in reporting his own more accurate description of the process, I must give the account of what I *saw*. The roses were a mass of bloom, of which each branch constituted a picture, sprays heavily burdened with every stage of flower and bud, and the plants in vigorous foliage and growth. Approaching the shrubs, one perceived tiny "rose-trees in full bearing" on all sides. These were the future shrubs, being layered down, and the following year separated from the parent stem, and transp'anted. The second year they would be sufficiently grown to appear in the flower-garden, for the stocks I have been describing have a nursery to themselves. I have not seen this method mentioned in the FLORAL WORLD. My friend tells me he has succeeded in many interesting experiments with roses, growing them as pillars, climbers, etc. I fear to trust my memory as to naming many, but two I especially recall as singularly lovely — "Williams' Evergreen," a delicate white, with shaded foliage, green to warm brown, growing luxuriantly over an arched trellis, and the "Queen," a sweet little damask, with petals softly shaded in rich purple, which will grow "any way." I saw it as a massive "pillar." The same gentleman told me that, having failed to grow tea-scented roses here, he was much surprised when visiting in Fifeshire, to see, late in the summer, magnificent specimens on the drawing-room table, which his hosts assured him were grown in the open air. He sallied forth into the garden to investigate the mystery (the climate being so much keener than at Leamington), and found that the shrub had been *accidentally* left planted at the back of a stove for exotics. On informing his friends that the heat to *the roots* preserved the rose, they followed his advice in planting a row along this house, and the experiment has resulted in complete success. He thinks much might be done both for delicate plants and for forcing vegetables by making use of underground flues.

Since I wrote, Bouvardia triphylla has a blossom (in the FLORAL WORLD the time of flowering is specified to be April to November); the white Primula sinensis continues in full bloom. I have six myrtle cuttings striking in sand under a bell-glass, and a prettily grown seedling dwarf orange marigold, with abundant flowers, raised by the friend whose roses I have described. LANSDOWNE.

[To know that we have thus been the means of alleviating the monotony and sufferings of an invalid, makes us question whether you or ourselves have most reason to be thankful. How true it is that flowers are witnesses of the unchangeable love of

our Heavenly Father, and that they carry with them, wherever they go, influences that cheer and bless the weak and the strong alike. You have done well, and your prospect of success next season depends on your care of the plants during the winter. Take care of the little plants of Solanum capsicastrum; remove all the weeds from amongst them, and put them in a window, and there, safe from frost, keep them alive till spring, then pot them separately in small pots, and we will in good time tell you what further to do with them. The Kalmia, Daphne, and Berberis are quite hardy, and may be left out all winter, but it would be well to screen them from severe frost, because if their roots get frozen through the pots, you may lose them; keep them just moist and no more till you see new leaves coming on the lilac trees, then give them plenty of water on sunny mornings, and they will bloom again. After that the kalmia will be worn out, and had best be thrown away. The Clianthus and the Nerium keep in the window, and in the same pots, and in April remove two inches of the top-soil from the pots, and fill up nearly to the rim with dung not more than half rotted, and give them plenty of water. The Ceanothus keep out of doors as much as possible, but never let the frost touch it. Think of it at night always in the winter. The Maurandya and Lophospermum will perish. The Aristolochia train nicely, and leave it to take care of itself. It will be very late before it starts next season, but it will start. The Bouvardia to be kept in the pot in-doors till March, and then to be repotted. This would have bloomed well this season if the weather had been warm. The Dracæna you may try to save by means of warmth, light, and very careful watering all winter, but we are afraid you will lose it. You must not expect it to bloom even if it survives. Inquire again if we are not sufficiently explicit.]

BEDDING PLANTS, TIFFANY HOUSES, AND GOLDEN CHAIN GERANIUM.

In the autumn of last year the frost of October overtook me, even before I had thought of getting my autumn-struck bedding geraniums under cover, and the consequence was, a large majority of the plants were killed to the ground. I had no choice but to make the best of a bad bargain, and the consequence was, the young plants were taken up, had the destroyed parts cut away, and were "laid-in" in some light sandy soil on the border of an early forcing vinery. Here they remained, looking most deplorable, some rotting, others throwing a shoot or two from the dormant buds at the base of the cuttings. Heat was applied to the house the end of November, and being gradually increased, by the new year I had a stock of young plants, which were daily asking for more room. What was to be done with them? To pot them was quite out of the question, for I had no room for such an array of baked clay as they would have required, and hence I was driven to the mossing plan. When pots are placed to touch each other, it will be found that just 100 3-inch pots will stand in each square yard; but of the larger size, that generally used for bedding plants, only 64 plants will stand in the same space. To prepare pots and soil, pot, and put away 500 plants per day, is not bad work for two men; but the moss being gathered, I find a man and boy or woman will moss and put away 800 to 1000 plants per day with ease. With pots, each requires a daily examination, if not watering. With plants in moss, a watering once a-week is quite sufficient, as, being bedded in light soil, the roots have a much wider pasture to roam through than if each plant was confined in a small pot. Of the space required by mossed plants, of course much will depend upon the quantity of soil used to each plant; but, as a general rule, it may be assumed that, at the least, one-half more, and frequently double the quantity, of plants will stand in the room which would be required if the plants were in pots, while the care and attention required by the mossed plants will not be a tithe of what would be necessary if the plants were in pots.

Given, then, a quantity of plants in pots or boxes to moss off, the first thing to consider will be the place to put them in after they are mossed. Generally pots or frames, with a slight bottom-heat from leaves or tan, will be the best for free-growing things; but those who have vineries, or other forcing-houses, may make use of any vacant space for the bedding plants. I cram my inside borders, even under cu

cumbers and melons, full of them without the slightest injury to the principal crop. The place being provided, prepare a quantity of light soil, such as leaf-mould and loam, or old mushroom dung and loam, in equal quantities. Put this through a half-inch sieve, and place it in the house ready for use.

Next, prepare a quantity of moss; this, if matted together will be better of being prepared by beating the same as plasterers prepare hair for hair mortar. All being ready, shake out and divide the plants, then place a small portion of moss on the palm of the left hand, over that some soil, then the plant; cover the roots with more soil, and then double the moss up, and tie securely. For tying, matting or string may be used, but a much more expeditious and safe plan is to use thin iron wire. This may be purchased at 4*d.* to 6*d.* per pound, and a pound of wire will tie from 400 to 700 plants, according to its strength and the size of the balls of the plants. It is not necessary to have the wire galvanized, as, by the time the wire decays, the roots will have taken such hold of the moss as to prevent its falling apart. As the plants are mossed, let your assistant begin to lay them in the light soil previously spoken of. The distance at which they are placed apart will depend upon the size of the plants, but generally, in the row, the balls may be placed so as to touch each other, and have a little breathing space allowed between the rows. In this, the first station, the plants will stand until they have rooted in the new soil, been stopped, and made new shoots; and if stock is wanted, it may be necessary to stop them a second time. After they have made the second growth, the plants are fit to remove to a cooler place, for I suppose that, so far, they are in a forcing-house. At the time of removal to a cooler house, the soil should be dry rather than otherwise, so that after they are replanted, packed with fresh compost, and watered, they will feel little of the check. This shift I suppose to be into a cool greenhouse vinery or pit, and here the plants will remain until April, at which time they may again be removed into a cold pit, with temporary covering, or, what is now so much recommended, a tiffany-house. No doubt a house of this kind would be found exceedingly useful in every establishment, not only for protecting bedding plants, but also for fuchsias, camellias, azaleas, etc., at the present time, and especially in a season like this, when it has been almost impossible to trust a plant of value to the drenching rains we have lately had. Mr. Standish tells us of the frost-resisting power of this tiffany covering; but the frost-resisting qualities will depend more upon the size of the house than the material it is covered with. Thus, for illustration, if a house contained a volume of say 5500 cubic feet of air, it might, if it was tolerably air-proof, and was shut up warm the preceding day, contain sufficient caloric to resist a frost of 6° or 8° below the freezing-point; but if it contained 500 feet only, then it would be frozen through and through. This is the reason why glass walls failed in protecting plants, though orchard-houses succeeded; and this is the reason why my lord's conservatory may pass unscathed through a cold night without fire, while in the small house at the rectory the plants are all frosted. It is not the heat-preserving property of the covering, but the quantity of heat stored up in the atmosphere, which is the real protecting power.

For the formation of cuttings, various directions are given. One man says, take them off with a heel of the parent branch; a second directs to cut just below a joint; while a third will lay great stress upon the direction in which this sectional cut is made. For my own part, I pay but little attention to any of these directions, for I once knew a gardener who, when he cut his pelargoniums down in the autumn, would set a boy to place the ends evenly and the branches together in bundles, and then with a long sharp knife (he used a bill-hook) he would cut the bundles into lengths of three or four inches each, and thus the cuttings were formed. This may be called the rough-and-ready system, but still it is near enough for common things, and where plants, as for market purposes, are required by the thousand. Now, if I were pressed, I should say there is only one secret in connection with cutting making, especially of geraniums. All propagators are aware that the great enemy to successful striking is stagnant moisture, either on the cutting or in the atmosphere surrounding it, and yet, at the same time, it is indispensable that the atmosphere be kept so moist as to prevent the juices of the plant being carried off. How is this to be managed? If you syringe too much the water hangs about the cutting, and it quickly rots, and if you do not syringe, the cuttings flag for the want of moisture. Now, if you take a cutting fresh from the plant, and hold it vertically in your hand, you will see that at the base of each leaf-stalk, especially the most recently formed ones, are two little bracts, no doubt intended by nature

to collect the moisture, and hold it in contact with the most growing part of the plant; for you will find that, as the branch assumes its full development, these bracts bein no longer necessary, wither and fall off. These bracts, in the cutting, perform their functions as well as in the plant, but unfortunately in the cutting they become organs of destructiveness; for, holding the moisture around the cutting, they quickly cause it to rot; but remove these bracts, and likewise the most vertical leaf, and then you will see that it is impossible for moisture to remain upon the cutting sufficiently long for it to do any harm; therefore, in preparing your cuttings, remove these bracts, and at the same time you remove the receptacles of stagnant moisture. With the cuttings so prepared, you may syringe daily without any fear of doing injury; and, indeed, of the most delicate fancy pelargoniums thus prepared I rarely lose a cutting. With reference to cutting to a joint, that is not of the slightest consequence. I like strong cuttings when I can get them, but if a quantity of a scarce kind is required, a leaf with the accompanying bud, and the internode below it, is sufficient for my purpose. Thus, in cases of necessity, every leaf with the bud at its base will make a plant. I have recommended that with the bracts the most vertical leaf should be taken off. This only applies to cuttings of the most terminal part of the branch; and I think, in addition to removing the receptacle for stagnant moisture, it also for a time, by arresting further growth, prevents the sap being used in a wrong direction.

In the autumn of last year, a friend was so kind as to send me, after the October frost, some old plants of Golden Chain geranium. When received, they presented a rather forlorn appearance; but the decayed portions were removed, and the plants were potted in small pots, and plunged in a gentle bottom-heat, the soil used being ordinary geranium soil, with an extra quantity of sand to induce root action. As the roots began to protrude through the soil, the branches also gave evidence of growth, and, with the assistance of a little weak manure-water, and the temperature of a cool cucumber-house, I had by February a goodly display of cuttings. On the 17th of that month the plants were cut down, and when prepared, it was found that we had 619 cuttings. In preparing them, the leaf-bracts and leaders were carefully removed, and each cutting was surrounded with light, sandy soil, and tied up in moss as a separate parcel, taking care to keep the leaves as clear of the moss as possible. All being in readiness, the parcels were plunged in tan over a hot-water tank, the bottom-heat being kept rather in excess of that of the atmosphere of the house. The 600 cuttings occupied rather less than two square yards of surface, and on the 17th March we had the satisfaction of taking out upwards of 600 well-rooted plants. So much for the difficulty of increasing Golden Chain.

When the plants were taken from the tan or cutting-bed, they were planted thinly in shallow boxes, in a compost consisting of loam liberally intermixed with old mushroom-dung and cow-dung. In this, being kept in heat, they grew vigorously, and when hardened off and planted out, they were the best plants of the kind I ever saw. In planting, each plant was surrounded with a double handful of the compost previously mentioned, and at the present time many of the plants are 18 inches through, and form at the present time two remarkably fine rows of this elegant ribbon plant. Thus, I think it is quite clear, the best way to manage Golden Chain is to pot it in its entirety when taken from the flower garden in the autumn, to grow it in heat through the winter, and to strike the cuttings in moss in the following spring. Treated in this way, Golden Chain will quickly become as common as Tom Thumb; but nurse it with peat and sand, and it will remain, what it always has been, a sickly and delicate thing.

One remark more, and for the present I have done. When plants are difficult to root, it is always essential to preserve the roots after they are formed. This, in potting off in the ordinary manner is a difficult matter, but strike your cuttings in moss, and these difficulties vanish.

A. P. H., in *Gardener's Chronicle*.

LONDON ROSES.

In every pursuit there are certain hillocks to climb over, and deeps to span. The mariner may sail round the world, and be wrecked at last on the very reef whereon he tried his gun for the first time, within sight of his mother's cottage. The culture of the rose, in the vicinity of great towns, is one of those touchy tasks that test a man's patience and perseverance quite as much as his skill, and we may call it one of the peaks in the path of the suburban gardener. It is ten years since I made my first attempt to domesticate the rose in a rather rural, but very smoky, district, just one and a-half miles north of the General Post Office. Swan's Egg pear there used to produce fruit abundantly in favourable seasons; figs fruited on the walls, and almost everything in the ordinary run of garden stock did well, except grass and roses. A bit of good turf was worth a guinea a square foot, and it would cost almost that to patch and mend and keep it decent. The roses were a failure, for the simple reason that I went the wrong way to work. It has been a fashion ever since the introduction of the system of working roses on briars, to plant standards on grass, and with the grass to their stems, and that fashion has been fatal to more roses than any other similarly based on false principles. I am very glad I went the way of the fashion then, for it taught me more about the constitution of the rose than all that I have read and observed since. It taught me that a briar must be fed with liquid as well as solid food in plenty, and that on grass the feeding is just impossible. It taught me also that standards are only stumps, unless well treated at the roots, and in the enjoyment of a good atmosphere for the head. Take stock of the roses in suburban gardens, and of every hundred standards planted on grass, with no open soil around them, you shall find ninety in a starving, drifted, shrunk condition, less elegant in outline than birch brooms, and less agreeable in colour, because a birch broom has a nice shining brown bark on all its twigs, but the roses are a bad mixture of black and green, and only bearable during their short season of indifferent bloom. This remark does not apply with force to the case of roses farther off, because the farther you go from towns the better are the conditions and the more liberal the people as to proper expenses for gardening. Sooner than see the roses starve, the suburban gardeners, in many places, strip up the grass round all their rose-trees at the fall, and lay over their roots a good layer of fat dung, and then relay the turf. But that even is a poor makeshift, and will not save the system from the condemnation it deserves. If we observe how the dog rose grows wild, we shall find the stoutest and most lusty growths along the hedgerows of a clay country, where their roots get plenty of water, and very often some stronger stuff from the byre and the manure heap, but where there is never any stagnant wet. A bit of real clay, that has been laid up all winter to pulverize, is, when enriched with manure, the best possible soil in which to plant briars for budding, and also all flowering standard roses, which are the same briars in another stage of cultivation. If the smoke of towns does harm to the rose, the state of the soil does much more harm to the root, and the more attention is paid to this basis of operations, the more will the field widen for the growth of roses in towns. But the closer we come to the centre of a town, the more must we incline to short roses, and at last give up standards altogether.

The state of the case may be represented by a diagram, and suburban gardeners are recommended to adapt the diagram to their own geographical position in regard to the towns to which they are attached. Suppose we begin in the centre of the city of London, there I should say use none but roses on their own roots; travelling outwards, in any one direction, I should not expect to see roses on briars till I had made a radius of two miles, and then I would have them short. The taller they are in towns, the greater is the difficulty of keeping them alive. At another mile from St. Paul's or the Post Office, I would have half standards; and at one mile more, full standards; and at five miles they might be of any height desired, to form weeping roses on lawns and back rows of broad banks. Here then is the diagram, which may be considered as representing the gradation of heights, on a radius of five miles from St. Paul's Cathedral.

Whatever exceptions may be made to such a rule must still be in accordance with the principle it involves. It may happen that in the three-mile radius the

air and soil offer the best conditions for roses of every size, shape, and variety; and such is almost the case at Stoke

Newington, and it may be that even at the four-mile radius, the proximity of a floorcloth factory or a hungry soil, compel the amateur to consider himself on equal terms with those who live two or three miles nearer the centre of the metropolis. If I could command acres here instead of rods, I could grow the tallest weeping roses, because the soil is a sound yellow loam, inclining to clay, and at four feet deep it is the best quality of brick earth, and would grow wonderful wheat and cabbages. But on the other side of Newington High Street, and not more than half a mile nearer town, my friend Mr. Denny cannot get a rose of any kind to live; and another mile nearer London, my friend Mr. Spencer, of Dalston, is in the same unhappy predicament.

Generally speaking, the soil of London gardens is a villainous black, indescribable substance, neither loam, nor clay, nor sand, and the wonder is that many good things grow in it so well as they do. People take it into their heads to have roses, they order standards and plant them in this stuff, perhaps very near boundary walls and under the shade of trees. I have shown how to get the maximum of light and air in any confined space in the chapters on "laying out" suburban plots in my "Town Garden," and there only needs to put a little proper soil at their roots for every townsman to have his plot of roses, whether among the thick of the houses, or in the outskirts, where there is often more factory smoke than in the hearts of cities. The general objection to worked roses in town gardens, is one which has a scientific basis. No matter what the rose, whether hybrid, perpetual, Bourbon, China, or noisette, the stock is the same, and therefore we are dealing with the dog rose, so far as soil, manuring, and watering are concerned, under whatever circumstances and in whatever positions we may plant them. Now, thrifty as the dog rose is when it can bite a piece of manured clay or fat yellow loam, it is far less adaptable to soils of various qualities and textures than certain cultivated roses, so that with roses on their own roots, we have a choice of those which will take to the place and like it. With worked roses we have no choice, but the briar always, which has one fixed constitution, instead of ornamental roses, which have many. To make this case plainer, suppose a person to choose Geant des Batailles, General Jacqueminot, Souvenir de Malmaison, Mrs. Bosanquet, and Duchess of Sutherland, just to see if roses will answer in a town garden. If he has standards they are all of the same habit as regards soil, because all on the same kind of roots, therefore he has *one* constitution to deal with. If on their own bottoms he has *five* constitutions to deal with, each with its own peculiar mode of rooting and power of resisting untoward influences. His chances of success, therefore, are as four to one; out of his five sorts, one, two, three, four, or five may answer, and he will know which of them are likely to pay him if planted in quantity, and each and all of them may thrive in a place where no rose would live long on a briar, simply because of the briar being out of its element. This point settled, brings us to the choice of roses for town culture, and here let me give a last reason in favour of dwarf plants, and it is this, that in very smoky places they may be covered with bell-glasses, as recommended by Mr. Cranston in his capital sixpenny book. When the neighbouring brewery sends its blackest clouds abroad at certain hours of the day; when the floorcloth factory diffuses a more than ordinary amount of gaseous poison, then the bell-glasses would screen the roses from the worst of the blacks, and keep a moisture about them beneficial to their foliage and swelling blooms, and the glasses could be removed at night, early morning, or at such other times as the nature of the district might warrant, because there is a periodicity of such things in towns, and an observant cultivator will know how to arrange his plan of giving air and excluding it, so as to get the best and avoid the worst.

My garden is three miles from the Post Office, it is moderately open, and the soil is a sound loam that had never had a spade deeper in it than two feet before I took it. I can get any quantity of silky yellow loam or stiff clay that I like to dig for, and smoke and the shade of trees are the only drawbacks to rose growing. I have been, during the last three years,

growing roses of all kinds, and in my garden list there are entered 150 sorts that I can keep. Those that fail here will certainly have no chance nearer London, and many that do well I would not recommend to Londoners. Among the teas, Gloire de Dijon and Niphetos are the only two of which I would speak as fit for any climate and the most smoky places; and they may be tried with a prospect of success in the heart of any town not further north than Nottingham. At the Temple Gardens, Gloire de Dijon is nearly as good as I get it here, but it is in an open place, and in the hands of a master. People as well off as I am as to circumstances, may plant Eliza Sauvage, Semele, Madame Bravy, and Devoniensis, for they do amazingly well here, and the dwarf plants of them get through the winter without lifting by laying a few foot tiles over their roots. Among the Bourbons, noisettes, hybrid perpetuals, and Chinas, we shall find a sufficient number to make up a rosery in any town garden, especially if the grower will be content with a few safe sorts instead of aiming at great variety. The summer roses and the climbers offer but few, and though common moss and common cabbage—two of the most beautiful roses in cultivation—grow here to perfection, and have not quite done blooming on this 25th of August, yet I would not recommend them for people living an inch nearer London than I am. But Maiden's Blush, Damask, Ville de Bruxelles, Gallica Napoleon, and Boula de Nanteuil, and hybrid China Chenedole will give summer blooms anywhere if on their own roots in good soil, and not utterly shrouded by high walls and trees. Among the climbers, Felicité perpetué, Ruga, Boursaut Crimson, and inermis, are all that I can recommend; the multifloras are useless, they want high and hot walls in good country air. In all classes the hard-eyed roses are useless; they make good growth and abundance of bloom buds, but not one bloom in fifty opens properly. H.P. La Reine, one of my old favourites, has ceased to be a favourite since I came to Newington, it never opens; H.P. Auguste Mie, the same; and as for H.P. Louis Bonaparte, one of the freest flowering and finest formed roses we have, it is here the ugliest fright imaginable.

I will now, for the sake of brevity, give lists of the roses which I class respectively as good and bad. I do not so class them in regard to their intrinsic merits, but simply as to the way in which they behave here; some of the best roses come into the list of bad in that way, and some of the least prized in places where all kinds prosper are here of much value.

SUMMER ROSES, GOOD.

Common Cabbage, Common Moss, Maiden's Blush, White Moss, Luxembourg, Purpurea rubra, Countess Marinais, *H.C.* General Jacqueminot, Brennus, Beauty of Billiard, Fulgens, *H.B.* Chenedole, Coupe d'Hebe, Charles Duval, Paul Perras, *French* Boula de Nanteuil, Napoleon, D'Auguesseau, Ohl.

AUTUMN ROSES, GOOD.

Hybrid Perpetual.—Alex. Bachmeteff, August Guinoisseau, Baronne Prevost, Caroline de Sansal, Dr. Marx, Colonel de Rougemont, General Jacqueminot, Duchess of Sutherland, Geant des Batailles, Jules Margottin, General Pelissier, Lord Palmerston, General Simpson, Madame Domage, Leon des Combats, Souvenir de Leveson Gower, Ornement des Jardins, Lord Raglan, Alphonse Karr, Madame Manoel, Madame Vidot, Mrs. Elliot, William Griffiths, Noemi, Pius IX., Prince Leon, Prince Noir, Cardinal Patrizzi, William Jesse, Madame Standish, Louisa Odier, Madame Louisa Thenard, Madame Hitz, Comte d'Eu, Anna Alexieff, Lælia, Charles Duval.

Bourbon. — Acidalie, Bouquet de Flore, Souvenir de Malmaison (under the deep shade of large apple-trees, and in a rather close corner, this grows and blooms superbly), Pierre de St. Cyr, Justine, Aurore du Guide, Marquise d'Ivry, Leon Oursel, Armosa, Etoile de Gironde (excellent under trees), Omar Pacha, Madame Nerard, Dupetit Thouars.

Noisette. — Aimée Vibert, Caroline Marniesse, Jaune Desprez, Lamarque, Vicomtesse d'Avesne, Triomphe de la Duchere, Ophirie, Fellenberg, Madame Schultz, Madame Massot, Jeanne d'Arc (this under trees comes fine, and is as good as a tea rose), Mecklenberg.

China.—Mrs. Bosanquet (comes fine under trees), Verginie, Cramoisie superieure, Fabvier (both these have their high colour and extraordinary profusion of bloom partially shaded by large trees), Paul Ricaut, Blairii, Brennus.

Tea-scented.—Gloire de Dijon, Madame Bravy, Niphetos, Semele, Devoniensis.

SUMMER ROSES, BAD.

Crested Moss, gets coated with soot and never looks nice, but it grows well and flowers freely; Alice Leroy, a very

pretty lilac moss, which gives a few good blooms, but is evidently not at home; Baronne de Wassanaer does not open well; Striped Unique Provence; *Gallica*, Œllet Parfait, Shakspeare, and Nelly; *Hybrid China*, Fimbriata, Lady Stuart, Statholder; *Hybrid Bourbon*, Great Western, pretty good, but always looks curled and shrunk, Paul Perras.

AUTUMN ROSES, BAD.

Perpetual Moss.—Madame E. Ory gives a few of its lovely blooms in autumn, but the first blooms are never good. Salet, good enough in the hands of a skilful rose grower, but valueless to beginners.

Hybrid Perpetual.—Auguste Mie, plants of this, worked on short stocks, and others on their own roots, are in the highest vigour of growth, and in good places, but they never bloom well, and this season very few flowers have opened properly. I must beg possessors of my "Town Garden," to scratch this out of the list of roses for smoky atmospheres, given at page 214. Louis Bonaparte is always ill-looking in foliage, and the blooms drop over as if loaded with lead, and they never open well. Dr. Henon, one of our best whites, no good in town. Triomphe de l'Exposition, moderately good, but needs a first-rate position, and must be adopted at the grower's own risk. La Reine, full in growth and bloom, but the blooms burst and look ridiculous from first to last. Madame Andry very good, if the grower is content with a few blooms, but will not, in London, serve as a perpetual. Madame Bernard rots in the bud in wet seasons, and does not open well in fine ones. Pauline Lansezeur, very shy, grows but little, but makes a few good blooms. William Griffiths, this I have entered above, among the good; its blooms, when they come, are perfect, but Londoners will get few of them, and will have to be content with very little growth. It seems as if it would take a hundred years to make a good plant, whether on its own roots, or worked, in London. Duchess of Norfolk, this is in the list given in "Town Garden," and may remain there, but do not use it in quantity until, by the trial of a plant or two, you have some assurance of success: it does very well here, but is shy, and not over effective. Eveque de Nimes, it is painful to have to say a word against this splendid rose, but it won't do in smoke-town. Of Bourbons and teas I need not make a black list. Most Bourbons do well in London, and most teas the contrary. The list of good teas is a safe one. If the experience of other Londoners will enable us to add to them, we metropolitan florists will be right glad if we can get but one additional name. One word more: If yellow loam or mellowed clay cannot be got to refresh the plot chosen for roses, then use, as a dressing, and in liberal quantity, the scrapings of Macadamized roads; I find it a most valuable material. I get here a mixture of the scrapings of gravel as well as granite roads at half-a-crown a load, and find it of great service in tempering the texture of the heavy soil of the place. It contains plenty of the dung of well-fed horses, plenty of siliceous matter, and an abundance of alkaline salts, consequent on the trituration of the granite. Strauge to say, a bank of conifers planted in this mixture two years ago are now in the most luxuriant health, and, as a rule, animal manure is injurious to them. For roses, especially the more tender kinds on their own roots, and also as a top-dressing for beds and borders, it is the best material within easy reach of Londoners.

SHIRLEY HIBBERD.

REMINDERS FOR SEPTEMBER.

Auriculas not yet repotted must be attended to without delay, to insure new roots before the temperature declines.

Azaleas and Camellias to be syringed frequently, but not so much watered at the root as during previous months.

Cinerarias ought now to be strong from rooted offsets, and some will want a shift. Use good compost, moderately sandy, and plenty of drainage.

Hollyhocks to be propagated at once. The shoots that rise at the base of the flower-stem are to be put in as cuttings round the sides of pots.

Kitchen Garden.—Another lot of winter greens may be got out from those left to strengthen in the seed beds; and it is better to plant every spare plot with them. Onions are ripening very slowly, and will need twisting at top, and loosening at the root, to hasten the process. Sow another lot of Hammersmith lettuce.

Pelargoniums.—If the weather continues wet, house the plants a little earlier than usual, but with air left on night and day for the first week.

Bedding Plants to be potted off without delay, as soon as rooted. Strike calceolarias

in quantities now, as they make much better bedding stock than from cuttings in spring.

Bulbs to be planted at once, in order to be well rooted before winter, and the first batch of hyacinths for blooming under glass to be got into pots without a moment's delay. See our papers on bulbs in the numbers for September and October of former years.

Roses may be budded on briars till the middle of October, but the earlier the better. Those entered in July have made good shoots, and should be looked over occasionally for the removal of wild buds below the work.

TO CORRESPONDENTS.

Roses and Balsams Diseased.—*J. B., Torquay, M. E. C, and others.*—Balsams have been generally poor this season through the continued cold and wet, and seed will be scarce, dear, and not too good. Several packets of diseased leaves and stems have been sent to us, and in each case it was evident that their condition was owing to deficiency of bottom-heat, want of sunshine, and an excess of sap in the vessels. There is no help for it; but it is well for growers to remember, that it is only the moisture that a plant can appropriate that benefits it. Hence, when a languid state is induced by continuance of cold weather, they should have no more moisture than will just keep them alive until there is such an increase of temperature as to warrant more liberal supplies. Some of the examples of rose leaves sent are really most beautiful as microscopic objects, though, in a horticultural sense, they are quite leprous. *M. E. C.* sends leaves densely covered with fungi belonging to the family of Uredines, of which there are also plenty just now in the harvest-fields. *J. P.* has sent one leaf most beautifully covered with Phragmidium bulbosum, which in some seasons you might not find one example of in a whole acre of roses; others of his leaves show that he has a good crop of thrips, as well as the most beautiful of microscopic fungi. Thrips' larvæ are little yellowish-white rascals, and the perfect insect is a lively creature, with dirty white wings. Flowers of sulphur usually puts a stop to the fungi, and Scotch snuff or Gishurst compound will generally act as a process of ejectment to the thrips; but with a forty days' rain one knows not what to do, and the best course seems to be to let things take care of themselves, in the hope that all will come right at last. Thorough good drainage will do as much and more to keep away fungoid growths from roses as all the sulphurings and Gishurstings in the world. Perhaps among the many who make inquiries on the subject want of drainage may be the secret of the mischief, and the remedy for that is proper earthwork and drain-pipes.

Fuchsia fulgens.—*T. H. H.*—This fine old fuchsia, the parent of some highly-valued varieties, is not half so much grown as it ought to be. In these days of foliage decoration it ought to come into a good place, for the sake of its fine leaves. It is one of the easiest of things to grow. There can be no better way of managing it than to plant out young well-rooted plants in a moist bed, enriched with a good deal of leaf-mould and well-rotted cow-dung. There let them grow and bloom as they like, and in a dry season give plenty of water; it can hardly have too much if the drainage is good. At the end of October take them up, cut them close over to the crown, and stow their roots in boxes with some poor sandy soil shook well amongst them, and keep just moist enough to prevent shrivelling. Put the box on the top of a flue as soon after Christmas as you like, and keep it there till the roots throw up new growths, from which take as many cuttings as you want, and strike with a pretty good bottom-heat. These will make fine pot-plants, which are to have good shifts as they require it, and a saucer to each for water after the middle of May. The roots from which the cuttings have been taken may be potted, and got hard by May to be planted out again. Clumps of four or five plants together in the front of a mixed border look fine. For all other purposes it may be grown the same as any other fuchsia.

Herbaceous Border Flowers.—*A. B.*—Ranunculus aconitifolia is a fibrous-rooted hardy herbaceous plant, with white flowers; R. millefolia is tuberous rooted, and the blossom yellow. The *white* Alyssum is really an Arabis, and it is a pity that the two names are so much confounded, seeing that the differences are so distinct. We, however, are as guilty of the substitution as all the rest of gardeners and writers. We never knew Iberis to be called Alyssum, which would be horrible; but what you have had with it from Morse, of Dursley, is really an Arabis. There is but one real good yellow Alyssum, and that is saxatile, known everywhere as common yellow Alyssum. The most obvious distinctions between Arabis and Alyssum are in the upright, branchy growth of the latter and the procumbent growth of the former. Thus Alyssum saxatile is a miniature shrub, with semi-arboreous branches; and so also is the variegated Alyssum, used in bedding. But the white Arabis spreads laterally in strictly herbaceous tufts, and the variegated form of it has the same habit, and not an atom of timber in its structure. The perennial Iberis is also a small shrub, which carries its leaves all winter, and produces white flowers so truly candytuft in character that it needs no knowledge of botany to determine it. Glad to hear your potted Tomatoes are fruiting; in the open ground they are a failure everywhere.

Heating a Conservatory.—*H. C. W.*—You will see that we do not often recommend gas, because of the expense; but for your little conservatory outside the drawing-room, gas is the best source of heat you can have, especially as you can have the boiler in another apartment. Have Trotman's stove, and a hot-water pipe from it round the house. Mr. Trotman's address is New Road, Hammersmith. Glad to hear of the successful conversion of the gravel-pit to a garden. It has been a good season for all newly-planted trees.

Tropœolum elegans.—*P. M. K.*—We have proved this season that only about 10 per cent. of Tropœolum seedlings are worth keeping. Mr. Hodgkinson, of Sydenham, has raised a beauty, which is called Hodgkinsonii, and all have a chance of similar success; but it is

waste of time to sow for bedding. Perhaps your plants from cuttings are in too rich a soil, and perhaps they have had a little too much water.

NAMES OF PLANTS.—*A. B.*—Your weed is Prunella vulgaris, or self-heal, a very pretty thing when in masses about large rockeries.—*Subscriber ab initio.*—Your grasses would have been named last month, but some of the specimens were so imperfect that we had very much trouble to make them out; and now we cannot speak with certainty of No. 6. Their names are—1, Glyceria rigida; 2, Festuca rubra; 3, Aira flexuosa; 4, Festuca duriuscula; 5, Brachyopodium silvaticum; 6, Festuca elatior (?); 7, Aira cæspitosa; 8, Poa fluitans; 9, Triticum repens.—*S. S. S.*—Your ferns are—1, Polypodium vulgare; 2, Polypodium alpestre; 3, Lastrea spinulosa; 4, Polypodium dryopteris; 5, Asplenium adiantum nigrum; 6, Pteris aquilina; 7, Adiantum formosum; 8, Lastrea thelypteris; 9, Asplenium filix fœmina, var. crispa; 10, Nephrodium (Aspidium) molle; 11, Lastrea filix mas; 12, Adiantum hispidulum. The best work on British ferns is Thomas Moore's Handbook, price 5*s.*; the best on exotic ferns is Mr. Lowe's, in six volumes, price 14*s.* per volume.—*S. J. C.*—A potentilla, perhaps Atrosanguineum, though darker than that is generally.—*Subscriber.*—Your showy-yellow flower is Chrysanthemum segetum, a native of Britain: it has come up rather plentifully in the Temple Gardens this season.

BEGONIA FUCHSIOIDES.—*J. R., Tipperary.*—Your inquiry is still indefinite. There is no such genus as fuchsioides; you have given the specific name only. Unless we have the generic name as well we can make nothing of it. Suppose, for instance, you had asked about a Japonica; then it might be Aucuba Japonica, Camellia Japonica, Pyrus Japonica, etc., but who could determine which? In our anxiety, however, to be useful, we venture to guess that you have Begonia Fuchsioides, which is easy to manage if you have stove heat, and without that it is not likely to prosper. The treatment must be liberal. It must be in the stove all autumn, winter, and spring, and during summer be set out in a position where it will be screened from the sun and wind for two months, then to be transferred to the stove or warm greenhouse. With such management it will flower abundantly.

CUBRO GUANO.—"*Horsa* justly complains of the preposterous price, but for that he may thank the retailers, who will not sell it unless tastefully put up and cased in tin, and require, besides, a profit of 33 per cent. We should very much prefer to supply it to the retailers by the cwt., leaving it to them to sell at their own prices. We know this to be done by at least one of them, Mrs. Briggs, 116, London Road, Southwark, and we are informed that she is advertizing her prices in your present number. We are your obliged servants, *John Chisholm, Son, and Co.*, 33, Mark Lane."

HOUSE FOR BEDDING PLANTS.—*J. P. P., Moreton-in-Marsh.*—The lights offered are cheap, and it will cost next to nothing to reglaze them as far as they require it. Ventilating by the back wall and under the front sashes is far preferable to ventilating at top, and allows of giving air nearly all the winter through. The use of coke and cinders will be cheaper than gas, and quite as effectual for a house 20 feet by 5 feet 6 inches. A 6-inch glazed drain-pipe flue carried right through and not returned will be the cheapest; but, if you return it, take it the whole distance back, so as to have the chimney over the furnace, the heat of which will warm the chimney and ensure a good draught. We should, however, prefer a brick flue of 4½-inch work near the fire, and the rest brick on edge. Sink the ground to the original level if there is no fear of water, and you will gain additional immunity from frost. The level of the flue must depend on the level of the furnace, from which there must be an ascent, however slight, to the chimney, otherwise the lower they are the better if still above ground. As you have a good wall, the additional height at back had better be of 9-inch work. In glazing adopt the usual practice of open laps, puttied laps are very objectionable. Gazania splendens may be had in any quantity at the nurseries.

MULCH FOR ROSES.—*Sir J. S. M.*—We have often recommended a mixture of guano and wood-ashes as a top dressing for all roses that give autumn blooms; the dressing to be applied when the first bloom is declining. But the truth is that any manurial matters that are of a solvent nature, and not unsightly when laid on the surface, will answer the purpose. Two or three inches of fresh pigs' dung, or short stable dung only half rotted, are the dressings generally most accessible, and nothing can be better. It is no use to mulch roses with well rotted manure, because it is only what washes down by rain that feeds the roots, and the stuff should be pretty fresh and strong to convert every shower into liquid manure in passing through it to the roots. But in addition to the mulching they should have a careful pruning after the first bloom, to get the next growth and bloom from plump well-placed buds, those next below the pips being the first to push if left to do so, but not so good for late bloom as those a little lower down. It must be remembered that mulching not only feeds by manuring the roots, but also keeps the soil moist, an object not of much importance this wet season, but a good fixed rule in rose culture. After August we would never mulch roses for fear of getting a rank, soft growth late in the year, when the wood of the season ought to be well ripened. At page 152 of Vol. i. are figures of Pascall's cutting-pots, and the way to put the glass over cuttings and eyes of roses is shown in the right hand cut.

PLANTING A FERN CASE.—*F. W.*—A case 19 inches by 14 inches, and 14 inches high, will look well and do well if planted as follows:—Centre, Campyloneurum angustifolium, on each side Asplenium adiantum nigrum and Asplenium microdon; front and back, Lomaria antarctica, Adiantum setulosum, Adiantum æthiopicum, Asplenium ebeneum, Doodia rupestris, Woodwardia confluens, Polystichium triangularum, Niphobolus rupestris.

PRESERVING GREEN PEAS.—*Captain S.*—On the Continent green peas are preserved in a dry state, and the drying is accomplished by spreading the peas or other vegetables very thinly on a clean surface over which currents of heated air pass. Too much heat or the fumes of heated metal would of course spoil them. Another method of preserving them is to have the peas quite dry and fresh from the shells, fill a sufficient number of bottles, and shake them down close together, cork them very securely, and then plunge the bottles in water, which is to be heated to boiling point, and kept boiling for an hour. The corks are then further secured by bladder or sealing wax, and the bottles stored away in a cool, dry place. Those dried require to be soaked before cooking, those from the bottles are not soaked. Like jam making and many other domestic arts, practice is necessary to ensure success, and the first attempt may end in failure. We cannot find the article to which you refer. You must have seen it elsewhere.

THE

FLORAL WORLD

AND

GARDEN GUIDE.

OCTOBER, 1860.

OTHOUSES FOR THE MILLION, as invented and patented by Sir Joseph Paxton, M.P., have been the subjects of frequent inquiry in letters addressed to us of late, and we embrace the present opportunity of offering a few remarks upon their adaptability to the various necessities of private gardens. The leading feature in the construction of these houses is their portability. They are put together on a plan which gives them the solidity and strength of permanent structures, but which allows of their removal with as much ease as the striking of a tent, and thus, at the first start, they commend themselves to the attention of tenants at will and those who hold their gardens on short leases. The whole of the wood and iron-work used is on one uniform pattern, and produced by means of machinery, and, by a peculiarly ingenious method of forming the ends, the houses can be put up at any angle, and at any time are easily altered to any other angle, so that a house in use this season for pines can be adapted next season for orchard-house trees or for bedding-plants; and in no case is it necessary that a single inch of the structure should become a portion of the freehold. It will be seen by the cuts that there are no side-sashes, the top-lights come to the ground, and the gutter rests on a bank of earth, which, being raised above the general surface of the garden, forms the border inside, and allows of a sunken path without excavating. Another peculiarity, and for which, perhaps, the inventor has the best claim for a patent, is in the method of ventilating. Instead of sliding-sashes, or shutters on hinges, ventilators are let in between the lights, so as to admit air transversely from the ground-level to the ridge-board (Fig. 1). These ventilators were at first made of wood, but, to avoid loss of light, they are now made of iron framework and glazed, and they open from within by the same simple method generally adopted with front sashes. In houses of great length, the leverage of the ventilators is connected, so as to allow of the opening of the

whole of the ventilators at once. The ventilation is in these houses most completely under the control of the cultivator. If the wind blows from the east, the ventilators on the west can be opened alone, and if the wind is from the west, air can be given on the east side. These houses have been described as fitting together with hooks and eyes; in truth, they hold together by the force of gravity alone, and the more wind the more firmly do they maintain themselves on their foundations. We have lately inspected several of them, erected in Sir Joseph Paxton's private garden, and among them is a lean-to (Fig. 4), stocked with orchard-house trees, which Mr. Heremann assured us had not a single bolt of any kind to keep it to the wall. Indeed, the question has been raised in a court of law whether the patent was not an infringement of the Building Act, the promoters of the indictment assuming that the lights must be bolted to the wall, or in some way fixed by the wall-plate; but it was proved that there was no fixture of any kind; that, within the meaning of the act, these houses are not buildings, they rest above and on the surface of the earth, and require a wall only to *lean upon*, not to be fastened to, and thus, above ground, as well as below ground, they give the freeholder not the shadow of a claim.

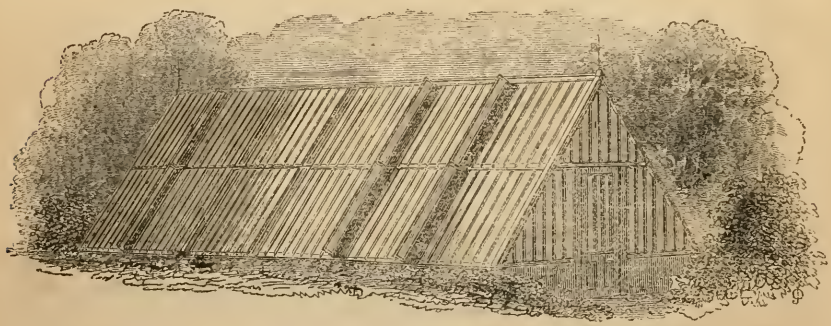


Fig. 1.

One of the most useful forms of houses for amateur cultivators who have not much room for glass is the one made with twelve-feet lights, at an angle of 45°. A house of this pattern in Sir Joseph's garden is furnished with grapes trained under the glass, with standard plums planted out in the border, and dwarf peaches, nectarines, and cherries in pots *on* the border. We thoroughly enjoyed the walk through this house, and were well satisfied, in the healthy condition of the trees and the fine condition of the heavy crop of fruit, that the method of construction is in thorough accordance with the requirements of the plants, both as to light and ventilation. We need hardly say that the raised border is most convenient for getting at the trees, and that there is a large store of sun-heat in the soil, with the full exposure of the border to the light. A slight variation of this form and the adoption of fourteen-feet lights, give a house admirably adapted for standard trees, which, if of considerable length, and the border raised four feet above the ground-level, affords a delightful glass promenade, and, when the trees are in bloom, unique for its interest and beauty.

We have remarked that the principle of portability is carried out in every detail, and in no respect is this more ingeniously managed than in the construction of the ends. Take, for instance, a pine-pit

made with twelve-feet sashes, at an angle of 30°. The width of the house is about nineteen feet; this allows of a three-feet walk along the centre, and gives two borders eight feet wide. Allow eighteen inches next the glass for the hot-water pipes, and four rows of pines may be grown each side. There are no rafters, but vines with their roots outside can be taken up on wires, and the rods can be wintered outside by means of slides fitted at the bottom of the ventilators, which, when removed, allow the vines to be drawn through, and an internal box is constructed to prevent the entrance of cold air into the house. The

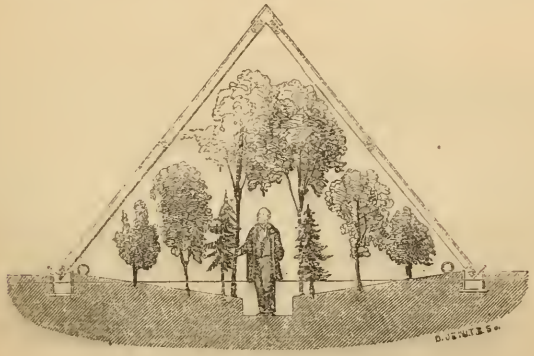
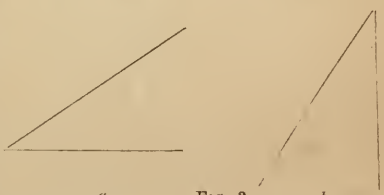


Fig. 2.

materials used in the construction of this house only require re-arrangement to form a house of quite another kind; there need not be an inch of wood cut, or any part of the iron-work altered. Take the ends of this pine-house, which are shaped as in Fig. 3 *a*, turn them, as in Fig. 3 *b*, and we have another acute-angled structure for early grapes (Fig. 2). Of course, where walls are standing, nothing can be more simple than to order the houses according to measurement. There are no rafters, no framework, and there is no occasion for preparing a design and calling a council of carpenters and bricklayers. The raised border gives immense power of resistance against frost, and the furnace and boiler can be on the level outside, so that there is no risk of having it water-logged in places not well drained.



a Fig. 3. *b*

It has always been our custom to quote the names of manufacturers, and the prices of goods. It is against our own interest to do so, because manufacturers whose productions are recommended in this work, occasionally consider themselves absolved of the necessity of advertising. They are certainly in the wrong, but we must leave them to find out for themselves the magnitude of the mistake. We consider the interests of our readers, and we recommend nothing about which we have the shadow of a doubt. In some quarters this method seems not yet to be understood, but it will be understood in time, and we are content to wait, and are prepared

at any time to refer back and ask if we have recommended any invention or appliance in horticulture, or any plant, new or old, which has not proved equal to our commendations. So in regard to these Paxton houses. We have seen them in operation, and taken note of every detail of their construction; and we say without hesitation that, for simplicity, portability, and efficiency for the practical pursuit and enjoyment of horticulture, they are of unquestionable excellency, and they place the horticultural public in a position of obligation to Sir Joseph Paxton, as having wrought into practice an original and ingenious idea. The span-roofed houses average a trifle over £1 per foot run, and the lean-to's 10*s.* per foot run. This includes water-troughs and ends complete, but not the heating apparatus. A span-

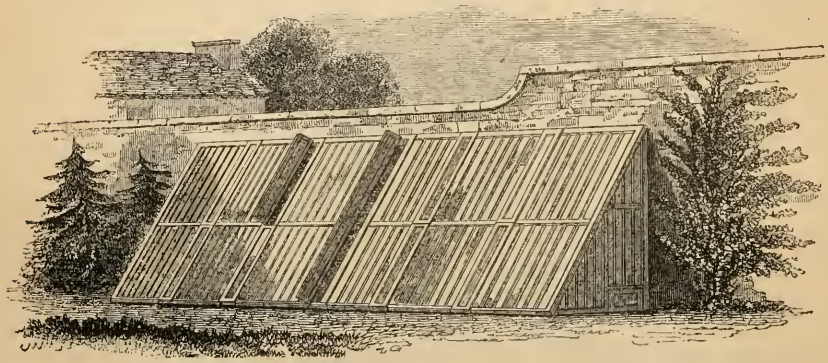


Fig. 4.

house of thirty-one feet three inches in length, with twelve-feet lights, will cost £53; with ten-feet lights, £42 5*s.*; and with eight-feet lights, £33. The greater the length, the less is the average per foot; as, for instance, a house 105 feet 11 inches, with eight-feet lights, costs £97 15*s.*, which is about 18*s.* 6*d.* per foot; but a house twenty feet seven inches, with eight-feet lights, costs £24, which is £1 4*s.* per foot. Lean-to houses vary in the same way. A lean-to, 105 feet 11 inches, with eight-feet lights, costs £48 7*s.* 6*d.*; but one of twenty feet seven inches amounts to £12. The fullest particulars respecting these patent houses may be obtained on application to the manufacturer, Mr. S. Heremann, at his office, 7, Pall Mall East, where a model of one may be seen.

We are indebted to the fanciful ingenuity of Mr. Donald Beaton for a very appropriate name for a new horticultural contrivance. "Crinoline pots" are, so far as we know, in use only at the garden of A. Mongredien, Esq., at Forest Hill, where Mr. Summers, the stepfather of Spergula pilifera (Mr. Mongredien himself being the original introducer of it), gives so favourable an account of them that we cannot suppose they will long continue inaccessible to the general public. These crinoline pots are, as shown in the engraving, constructed wholly of galvanized wire, and if filled with fine sandy compost of a friable nature, the greater part would run out through the wires, and the pots would be of no use at all. But if filled with lumps of turfy peat, and trimmed up neatly, the soil holds to-

gether firmly for any length of time, and the question arises, What use are they then? It is about twelve months since we first saw them, and on that occasion expressed our doubts to Mr. Mongredien and Mr. Summers as to whether they would prove of any special value. It appeared to us, as no doubt it will now appear to many of our readers, that the sun acting on the exposed soil would destroy the roots of the plants, and that the evaporation constantly going on from so much earth exposed to atmospheric influences would be little less destructive than a burning sunshine. It was agreed that, as time tries all things, he would fairly try these crinoline pots; and, under the skilful and persevering hands of Mr. Summers, they have certainly proved capable of accomplishing more than was ex-

pected of them. During a recent visit to the garden at Forest Hill, we made another inspection of these wire contrivances, and took particular note of the plants in them, and we must no longer hesitate to say, that the bold idea of their introduction has been well rewarded.

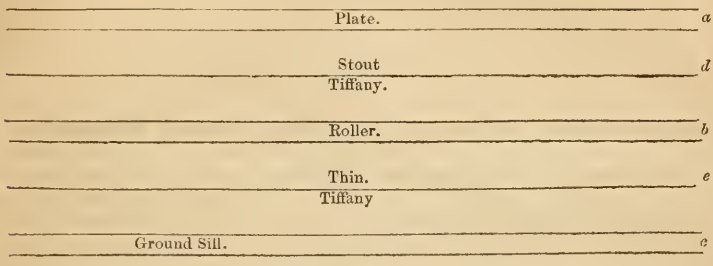
Mr. Summers has in his care a very good collection of ericas, and a still better collection of stove ferns and other foliage plants. Seedling ericas, planted in common flower-pots at the same time as others from the same batch were planted in crinoline pots, are neither so bushy, so com-

pact, nor in such vigorous health as the latter. Plants of most of the leading varieties are there side by side, in clay and wire pots, and the comparison must, in every case, insure a preference for the latter. Neither need it surprise us when we consider the habits of the ericas. Our own native species thrive best on banks of gritty peat, and they locate themselves, for the most part, on the slopes where the water from the upper levels flows over their roots, but not a drop lodges about them. If we examine the earth at the base of a tuft of, say, Erica tetralix, we may easily discover the white points of the rootlets peeping out to the daylight from between the pebbles, and on making a similar examination of the soil between the wires in these new pots, the points of the roots may be seen in like manner, for they are in a condition which very nearly imitates that which they select for themselves when growing wild—where they can breathe air almost as freely as the leaves do, and absorb atmospheric moisture without the possibility of getting water-logged. Why ericas, and many other plants that have hair-like roots, should so delight in a soil containing a large proportion of silicious grit, is, doubtless, because the atmosphere can filtrate through it to the roots without exhausting those roots of their due share of moisture. In the crinoline pots, the roots have the benefit of every syringing, and much more water may be safely given to insure luxuriant growth, without the possibility of danger.

Another advantage is in the ornamental effect to which these pots are adapted. In the fern-house, at Forest Hill, most of the wire pots containing specimen plants are clothed all over between the wires with selaginellas, and never have we seen the pretty cæsium and the lævigata to better advantage than as they here dangle in miniature festoons, and gather in broad patches of exquisitely-coloured foliage on the vertical surface of the soil in the pots. Thus, the sides of the pots are so much gain of space for plant culture, and the novelty of the scene presented by a house filled with such specimens is not less attractive than its real and *bona fide* elegance. Nothing can surpass the beauty of the large suspended baskets, made of the same wire-work, and filled with ferns not only above but round the sides and to the lower point underneath. Amongst the plants so used to clothe the soil in the pots and baskets are all the procumbent selaginellas, with Adiantum setulosum, which extends itself rapidly, and hangs out most charming tufts on all sides—Asplenium flabellifolium, Camptosorus rhizophyllus, Aspidium tenuis, Adiantum caudatum, Asplenium brachypteron, nitidum, Davallia dissecta, pentaphylla, Fadyenia prolifera, Goniophlebium piloselloides, Nothoclæna tenera, Niphobolus pertusus, and rupestris, and others of scandent and creeping habits. These wire-pots will certainly answer for all peat-loving plants, and so far are an advance in the way of both science and adornment. Who will manufacture them, and place them within the reach of the general public?

In constructing Tiffany-houses, it will be well to refer to page 79 of this year's volume for Mr. Standish's plan of ventilating by means of flaps; or the upper half of the side of the house may be on rollers, the lower half to the ground, tacked down in the usual way. In hot weather, this upper half may be rolled up to the plate to allow a thorough draught through the house. A few printer's lines will make this plain. This

diagram, then, represents the side of a tiffany-house, the tiffany being in two breadths. The lower breadth, which is permanently fixed by means of tacks and list, occupies one-half the height of the side; the upper half is of stouter material, to bear the action of the roller without danger of



being rent. During winter, of course, the roller is kept down, but when free ventilation is required, the roller is taken from *b* to *a*, and the lower part, *b* to *c*, remains as before. The lines *d e* are intermediate laths to support the tiffany. We have suggested the use of double tiffany, and as the material costs next to nothing, it might be well to have in readiness a sufficient breadth to cover the roof with, in the case of severe and prolonged frost, and the best way to use it would doubtless be to tack it on the under side of the rafters inside the house, just as tiffany is used to shade greenhouses and conservatories. It must be remembered, however, that tiffany will not wholly defend plants against frost. As remarked by our esteemed correspondent, Mr. Bayle, it draws the teeth out of a hard frost, and keeps off light frosts altogether. This remark will, perhaps, be sufficient for those who dream of keeping bedders in such houses. For soft-wooded greenhouse plants they are altogether unsuitable; but for orchard-house trees, camellias, and nearly hardy shrubs of all kinds, roses, and ferns, they are admirably adapted—for ferns, perhaps, the best of all structures; but, of course, early fruit is not to be expected. What do our orchard-house trees require, even including the tenderest peaches and nectarines, beyond moderate shelter from the time they begin to break till they have set their fruit? This the tiffany-house will afford them, and at the same time give all the light necessary for healthy growth and ripening the fruit, especially if ventilation be attended to, as we suggest above. The best bed of tulips we saw last spring was in a tiffany-house, constructed so as to remove and pack away for the winter, to be put up again in time to shelter the plants when coming into flower. It was built in the angle of a yew fence, which formed a beautiful green boundary line inside the house; the bed was edged with white tiles. There was a good gravel walk all round, and a profusion of pot plants in bloom—geraniums, cytisuses, and other such subjects, in full bloom. There is no end to the uses of these cheap structures, and they make delightful promenades when tastefully managed. The sudden action of a hot sun after a night-frost is entirely negatived by the thin film of tiffany, and numbers of plants that only need to be kept alive during winter, and which are

too often lost because left to chance it in the open ground, would have just the climate they require, safe from all ordinary frosts, and but slightly touched by the severest and most prolonged. These remarks will furnish replies to several correspondents, and save further reference to the subject in the place usually devoted to such matters.

NOTES OF THE MONTH.

Horticultural Society.—The following subjects, submitted to the floral committee, have been awarded certificates or commendations:—*Dahlias.*—Andrew Dods, deep maroon-shaded violet, from Mr. Keynes; Mrs. Dods, yellow, from Mr. Dods; Marquis of Bowmont, rosy-lilac, large, and of excellent form, but apparently hard-eyed, from Mr. Dods; Masterpiece, rich claret, from Mr. Keynes; Norah Creina, orange and yellow, tipped peach, from Mr. Turner; Elegance, white tipped lilac and flaked dark crimson, from Mr. Turner. *Miscellaneous.*—Rose, John Hopper, a hybrid perpetual, from Mr. Ward, Ipswich; Bouvardia Hogarth, from Messrs. E. G. Henderson; also, from the same, Dianthus Heddewigii, which is as fine in colouring and profusion of bloom this dull season as it was in the fine weather of last year; Epigynium leucobotrys, a beautiful greenhouse shrub, bearing clusters of snow-white berries, spotted and zoned with black, from Messrs. E. G. Henderson; Lobelia, purple standard, a handsome spike, possessing the best properties of the Cardinalis breed, from Mr. Kinghorn; Saponaria calabrica, a paler-coloured variety of a well-known border flower, from Messrs. Carter, of High Holborn; Fuchsia pyramidalis, a fine dark flower and excellent habit, from Mr. Kendall, who has a batch of very promising seedlings, from which this was selected.—A special general meeting was held on the 4th, C. Wentworth Dilke, Esq., V.P., in the chair, to elect a new member of council in the room of the late Rev. L. Vernon Harcourt; the choice fell on the Right Rev. the Bishop of Winchester, who has accepted a seat in the council.

Huddersfield Floricultural Show, Aug. 25.—This proved a much better show than the promoters had expected, and there were but few evidences that we have had a most ungenial season. The parade-ground of the Rifle Corps was the site chosen for the show, and the show certainly divided popularity with the Rifle Corps for the time being. The stove and greenhouse plants were numerous and good. There were specimens of Stephanotis, Crassula, Meyenia, Allamanda, Dipladenia, Cistus, Begonia, and Cyanophyllum magnificum in excellent condition. Mr. Smith, gardener to J. W. Crossland, Esq., and G. W. Binns, Esq., sent a few orchids, which were much admired. Mr. Barraclough, gardener to J. Whitacre, Esq., sent a beautiful collection of twelve exotic ferns. G. W. Binns, Esq., had a pretty lot, among which were Trichomanes speciosum, Hymenophyllum crispatum and Tunbridgense, Dicksonia antarctica, Lastrea hispida, Pteris argyræ and Pteris tricolor, two new and most exquisitely-coloured ferns. Three was in this collection a plant of Trichomanes scandens, with about fifteen fronds growing on a living Alsophila, and the base surfaced with Hymenophyllum. Mr. Binns also bore off the prize for the best Wardian Case, not exceeding fourteen inches in diameter. It was planted with Trichomanes crispum, Hymenophyllum demissum, H. hirtellum, Todea pellucida, and another Hymenophyllum. The fruits, vegetables, and miscellaneous cut flowers were mostly good, and were pretty closely inspected by the large number of visitors present.

Towcester Floral Fete, Aug. 30.—This interesting exhibition was held in the beautiful grounds of T. W. Gurney, Esq., and was the occasion

of a large gathering of the gardeners and gentry of the district. There were seven booths tastefully arranged for the display of the various subjects. The first booth on the right on entering the ground was filled with fruit-trees in pots, and upon the whole they looked as if they had come from a district very far north, for none of them were ripe, though the trees were in the best state of health. Most of these were from Messrs. Lane, of Berkhampstead. The next tent was devoted to ornamental foliage plants, among which ferns and lycopods were very conspicuous. The contributors of foliage and stove and greenhouse plants were—Lord Southampton, R. L. Bevan, Esq., H. O. Nethercote, Esq., Messrs. Lane, and Messrs. Wood and Ingram, of Huntingdon. In this tent we only saw one Lilium, and that had but one flower on it. There were some fine pyramid Fuchsias, among them Lord Clyde and Solferino looking magnificent. Many of the subjects were tallied with numbers instead of names, and where names appeared they were often misspelt or illegible. This is a point for committees to think of in preparing schedules. In the next tent was a good collection of hothouse fruit and vegetables. Mr. Chalmers, gardener to Sir Robert Peel, had some splendid grapes and a superb pine-apple; he deservedly carried off the first prize for six dishes. Some of the vegetables sent by the gardeners deserved praise, but upon the whole they were not equal in merit to the samples in the cottagers' division. Hardy fruits chiefly occupied the next tent, and amongst them were some fuchsias for decoration. Fair Maid of Kent, Maid of Castile, Souvenir de Cheshunt, and Catherine Hayes were the leading kinds. The collections of cut flowers included hollyhocks (not over good), dahlias (excellent), verbenas, and roses (mostly good). Among the best of the dahlias were Lord Raglan, Countess of Derby, Sir Joseph Paxton, Lady Popham, and Duchess of Beaufort. Geraniums were not to be found among the gardeners' collections. The amateurs' collections were displayed in a long booth, and attracted a crowd of visitors throughout the day. Among the fuchsias, Venus de Medici beat Fair Oriana. The first prize for a scarlet geranium was taken by a plant not quite so good as Richard Webb's in the cottagers' class. Among the dahlias, Lord Palmerston and Sarah Boyce were fine. The leading prize-takers in this class were Messrs. Pilgrim, Hills, Cross, Oxley, Elkington, Blencowe, Barwell, Treen, Black, Osborne, Whitten, Gurney, Cakebread, Iliffe, and Mrs. Richardson. The children's prizes were for wild-flowers, and we give the names of the successful competitors:—For Sunday-school children.—Best collection of wild flowers, by girls: 1st, 2*s.* 6*d.*, Annie Powell; 2nd, 1*s.* 6*d.*, Alice Walker; 3rd, 1*s.*, Frances Sharp. Best collection of wild flowers, by boys: 1st, 2*s.* 6*d.*, William Barker; 2nd, 1*s.* 6*d.*, Samuel Johnson; 3rd, 1*s.*, William Hickinbotham. Best design in wild-flowers, 1st, 2*s.* 6*d.*, Emily Johnson; 2nd, 1*s.* 6*d.*, Sarah Ann Hutchings; 3rd, 1*s.*, Sarah Hammond. Extra: 1st, Fanny May, Alice Sharp, and Fanny Sears; 2nd, Mary Wood and Matilda Hutton. The cottagers' contributions were worthy of the highest praise. The best geranium in the show was from Richard Webb, and took first prize in the cottagers' division. The first prize in the same class for fuchsias was awarded to W. Thorneycroft; William Pilgrim and R. Webb came next with excellent specimens. An extra prize was given to Mr. Webb for fuchsia Duchess of Lancaster. Mr. Webb was supplied with cuttings last year by Mr. Cole, of London Fields, and his plants were grown in his parlour window. A stand of geraniums, very tastefully set as a device in cut flowers, won a first prize for W. Townsend, R. Webb being second, and B. Johnson third. The agricultural roots were far inferior to those shown last year.

Trowbridge Floral Society, Aug. 29.—This was the eleventh annual meeting of this prosperous society, and was in no respect less successful than in previous and more propitious seasons. The whole town was alive with excitement, and the streets were adorned with flags and evergreens. The principal thoroughfare was spanned with a triumphal arch, inscribed

with the word "Floriculture;" and over the entrance to the residence of Mr. J. G. Foley, the honorary secretary, was a decoration formed of dahlia blossoms in colours, the motto being, "Good luck to all." The show took place in six tents, and the bands of the Royal Artillery and of the Wilts Rifle Volunteers kept the excitement up with their lively strains. The several classes were admirably filled, and the competition was severe throughout. As the entire prize list may be found in the *Bath Herald* for September 1, and also in the *Bath and Cheltenham Gazette* of the same date, those locally interested have a source of fuller information than we could supply in the limited space at our command.

Bath Floral Fete, *Sept.* 5.—This took place at the Sydney Gardens, and was an unusually brilliant affair, all things considered. The superiority of the western climate over what we are accustomed to in the east of the island, was strikingly evident, and perhaps more so in consequence of the unfavourable character of the season. As this show has been well reported in the local papers, it is sufficient for us to congratulate all concerned in the success attending their endeavours.

Bristol and Clifton.—The autumn show took place on September 6, and was very complete and very successful. Hollyhocks and asters were far in the rear, there being none worthy of first prizes; and in some other subjects first prizes were not awarded. The public, however, were well satisfied with the flowers and the music, and, as the company numbered about 4000, the dresses of the fair sex contributed largely to the gaiety of the scene.

Colerne Horticultural Fete, *Sept.* 20.—A very enlivening affair was this for the people of Colerne. They had the Bath Hanoverian Band, a ploughing match, and a ball, in addition to a very good show of flowers, fruits, and vegetables.

Chepstow, *Sept.* 14.—The Chepstow Castle Society is one of the most flourishing in the western counties, and this year's fête was not a whit behind its predecessors as to general effect and success, though in particular classes of subjects many contributions were unworthy of first prizes, which, therefore, were awarded instead to the clerk of the weather.

Sydenham Horticultural Society.—The first show of this society was held on Tuesday, September 18th, in the grounds of Westwood House, kindly lent for the occasion by Charles Millington, Esq. A more disagreeable day could hardly have been selected, for it rained without any intermission, a thick Scotch mist competing with occasional showers for the honour of wetting tents and visitors in the most effectual manner. Considering the very unpropitious condition of the elements, we may deem the show to have been well attended, the gate-keepers reporting the entrance of 320 persons. The fuchsias were much admired, and deservedly so. Some of the plants of fine foliage were noble specimens, amongst which we must particularize especially a Latania Bourbonica and two species of Rhopala, from Mr. Mongredien's; and also a Begonia Rex, from Mr. Whittaker's. Mr. Hunt's liliums and Mr. Sillern's collection of begonias attracted much attention; and the ladies' bouquets drew a crowd of admirers, those sent in by Mrs. Hodgkinson and Mrs. Reid exhibiting great taste in their arrangement. The display of fruit was very good for the season, but much of it was not fully ripe. The grapes from Mr. Farquhar's and Mr. Whittaker's were very creditable, and some black grapes exhibited by Mr. Moore, an amateur, were much applauded. Mr. Carter, an engineer at Sydenham, exhibited a working model of his new cultivator, and Mr. Summers showed some "crinoline flower-pots," made of galvanized wire. The band of the Sydenham Amateur Musical Society, and the fifes and drums of the boys belonging to the British School, played alternately, and did their best to counteract the damping effects of the atmospheric influences. The judges were Mr. Barnes, Mr. Page, and Mr. Thulluson. The following is a list of

the prizes awarded:—To Mr. W. Reid, gardener to James Hunt, Esq., 1st prizes for liliums, gloxinias, scarlet geraniums, figs, pears, and a green-fleshed melon; 2nd prizes for stove and greenhouse plants, plants of fine foliage, a specimen plant, a scarlet-fleshed melon, and a collection of vegetables; 3rd prize for fuchsias; and special commendation for asters and gloxinias. Mr. J. Summers, gardener to A. Mongredien, Esq., 1st prize for stove and greenhouse plants, plants of fine foliage, exotic ferns, and British ferns. Mr. J. T. Salter, gardener to A. Sillern, Esq., 1st prizes for blooms of roses, hollyhocks, and verbenas; and 3rd prizes for plants of fine foliage, miscellaneous collection of plants, and a specimen plant. Mr. J. Jackson, gardener to James Whittaker, Esq., 1st prizes for a miscellaneous collection of plants, a specimen plant, balsams, achimenes, twelve dahlias, six fancy dahlias, three bunches of black grapes, and a single bunch of black grapes; and 2nd prize for exotic ferns. Mr. J. H. Elliot, gardener to C. Davidson, Esq., 1st prizes for fuchsias, verbenas (in pots), cut flowers, and peaches; 2nd prize for blooms of verbenas; and commendation for a specimen plant. Mr. J. Lee, gardener to H. Cheesewright, Esq., 2nd prize for fuchsias. Mr. J. Pullen, gardener to W. D. Adams, Esq., special commendation for four pots of black grape-vines. Mr. Thomas Reid, gardener to T. N. Farquhar, Esq., 1st prizes for three bunches of white grapes, one bunch of white grapes, a collection of fruit, and a collection of vegetables; 2nd prizes for liliums, balsams, achimenes, one bunch of black grapes, plums, and figs. Mr. G. Farrance, gardener to S. Hodgkinson, Esq., 1st prizes for cooking apples and cucumbers; 2nd prizes for a miscellaneous collection of plants and for cherries; 3rd prize for dahlias; and special commendation for cockscombs. Mr. J. Cranwell, gardener to R. Pullen, Esq., 1st prize for a scarlet-fleshed melon; 2nd prizes for twelve dahlias, six fancy dahlias, twelve asters, and a green-fleshed melon; and 3rd prize for blooms of verbenas. Mr. R. Inman, gardener to J. Lintott, Esq., 1st prize for cherries, and 2nd prizes for three bunches of black and three of white grapes. Mr. H. Blundells, gardener to D. Rowland, Esq., 2nd prize for peaches, and special commendation for figs. Mr. R. Sharp, gardener to James Kingsford, Esq., 1st prize for plums, and special commendation for a collection of fruit. Mr. Berer, gardener to Captain W. Lord, 1st prize for dessert apples. Mr. H. Moore, 1st prize for one bunch of black grapes. Mr. G. Sykes, 1st prize for twelve asters. Mr. Norman, special commendation for twenty-four asters. Mr. Joseph Verey, jun., 1st prize for cucumbers. Mr. G. Hopkins, 1st prize for potatoes. We were especially pleased at one feature of this exhibition, on which we cannot now remark as we would wish. Let the following tell its own story for the present:—Six prizes, consisting of vases and scent-bottles of elegant designs in coloured Venetian glass, were awarded to the following ladies:—For the best bouquet arranged in a vase, 1st prize, Mrs. Hodgkinson; 2nd, Mrs. W. Reid; 3rd, Mrs. Hurst. For the best bouquet arranged for the hand, 1st prize, Mrs. Wood; 2nd, Miss Pullen; 3rd, Mrs. Hodgkinson.

Crystal Palace, *Sept.* 19 *and* 20.—This was a tolerably good show, and better attended than many of the public shows have been this season. Dahlias were abundant and beautiful; roses not abundant, but of average quality; gladioli very attractive; fruit generally not quite ripe; grapes excellent. In dahlias, Mr. Turner was first in the classes for 50 and 24; Mr. Keynes second. Mr. Turner's 50 included Lilac Queen, Pluto, Seedling, Deutche, Norah Creina, Seedling, Dr. Gully, Mr. Stockin, Harlequin, Sir G. Douglas, Duke of Wellington (Turner), Chairman, Warrior, John Dory, Earl of Shaftesbury, Hon. Mrs. Trotter, Lord Palmerston, Jenny Austin, Lord Cardigan, Golden Drop, Commander, Seedling, Pre-eminent, Miss Pressly, Pioneer, Mrs. Pigott, Lord Taunton, Bravo, Cherub, Sidney Herbert, Miss Watts, Triomphe de Pecq, Mrs. Church, Midnight, Heroine, Grand Master, Lady Popham, Madge Wildfire, Seedling, George Elliott, Seed-

ling, Mrs. C. Waters, Village Gem, two Seedlings, Princess of Prussia, Etona, Hon. Mrs. Lindsay, Dinorah, and a Seedling. Mr. Keynes had in his second prize lot of 50, Golden Drop, Pioneer, Cherub, Sidney Herbert, D'Israeli, Miss Pressly, Duke of Roxburgh, Miss Watts, Wallace, Lord Palmerston, Lilac Queen, Sir G. Douglas, Commander, Royal Lilac, George Brown, Lady Popham, Lady Franklin, Lord Clyde, Mrs. Pigott, Rosebud, Chairman, Earl of Shaftesbury, Mauve, Grand Master, William Dodds, Pandora, Mrs. Vyse, Lady Douglas Pennant, Masterpiece, Seedling, Jenny Austin, Midnight, Dr. Gully, Malvina, Seedling, Rosa Bonheur, Touchstone, Hon. Mrs. Trotter, Lord Cardigan, Mrs. Critchett, Mrs. Church, Lollipop, Triomphe de Pecq, Tippy Bob, Compacta, Seedling, and four others. Messrs. Harrison, Edwards, and Legge also showed in this class. In the class for fancies, Mr. Turner took first prize. In the amateurs' class for 24 blooms, Mr. Dods took first prize with Marquis of Bowmont, Golden Drop, Mrs. W. Fawcett, Chairman, Lollipop, Mr. Eckford, George Brown, Seedling, Mrs. W. Pigott, Seedling, Lady Popham, Seedling, Jenny Austin, Rosebud, Mrs. Church, Duke of Roxburgh, William Dodds, Seedling, Lady Douglas Pennant, Seedling, Cherub, Royal Lilac, Pioneer, a Seedling, and two others; 2nd, Mr. Cook, Notting Hill. In 12 blooms (amateurs), Mr. W. Corp, Salisbury, was first with Chairman, Lord Palmerston, Golden Drop, Jenny Austin, Lady Douglas Pennant, Warrior, Cherub, Hon. Mrs. Trotter, Triomphe de Pecq, Lilac Queen, Mrs. Pigott, and Sir G. Douglas. In class 6, 12 fancies (amateurs), Mr. W. Dodds was first with Highland Mary, Lady Popham, Cleopatra, Souter Johnny, Mary Lauder, Garibaldi, Seedling, Leopard, Seedling, the Flirt, and two Seedlings; 2nd, Mr. C. J. Perry, Birmingham. The Seedlings which received certificates were Beauty of Hilperton, crimson-edged lilac, Joy, pale lilac, tipped purple; Marquis of Bowmont, lilac, large; Masterpiece, crimson, tipped lilac, small, well formed, high centre; Andrew Dods, crimson; and Princess of Prussia. The roses in the winning stands comprised Souvenir de Malmaison, Prince Leon, Baronne Prevost, Madame Masson, Auguste Mie, Jules Margottin, Pius the Ninth, Duchesse d'Orleans, Géant des Batailles, Safranot, La Reine, Solfaterre, Duchess of Norfolk, Gloire de Dijon, Odier, Madame Cambacères, General Jacqueminot, William Griffith, General Castellaine, Niphetos, and Devoniensis. Among the fruit was a fine Providence pine, weighing over 8 lbs.; this was part of a set of eight dishes from Mr. Bailey, gardener to T. T. Drake, Esq., Shardeloes. Plums were unusually fine, but peaches were generally deficient of colour. The best Queen pine came from Mr. Austin, gardener to the Hon. R. Curzon, of Tooting, and took the second prize; the first was taken by a fruit not quite so good or so handsome, from Mr. Solomon, of Peckham Rye. Mr. Bailey's Black Hamburgh and Bowood Muscat grapes were even bunches and the berries faultless. Mr. Frost was first in white grapes with six bunches of Muscats; Mr. Reid, of Sydenham, exhibited in this class some well-grown fruit. The largest single bunch of grapes was sent by Mr. Payne, gardener to J. B. Bedall, Esq., of Chelmsford; it was black Hamburgh, and weighed 8 lbs. 14 oz. Melons were quite up to the mark, and the sorts which took the lead were Scarlet Gem, Egyptian Green Flesh, Orion, and Bromham Hall. We may consider this the close of the summer season, and now look forward to the winding up with chrysanthemums.

East London Floricultural Society, *Sept.* 4.—The first exhibition of this society was held at Albion Hall, Dalston, and consisted chiefly of fuchsias, dahlias, asters, cockscombs, verbenas, with miscellaneous plants and flowers. The following is a list of classes and exhibitors—Class 1. Six Fuchsias of any age: first, Mr. Harrison; second, Mr. James, of Stoke Newington, and Mr. Pratt, equal. In this class the plants of Mr. Harrison were much admired for their natural shape and regularity, as well as profusion of bloom; those of Mr. James and Mr. Pratt, although placed equal, were distinct in growth and shape, those of Mr. Pratt being standards, and Mr. James's

pyramidal. Class 2. Six Fuchsias of this year's growth: first, Mr. Harper, of Brixton; second, Mr. Harrison; third, Mr. Pratt. Mr. Harper's plants were remarkable for their good growth, being all from cuttings struck since January, and some even as late as March; they were all trained as pyramids, and from their uniform shape and large size, established Mr. Harper as one of the best cultivators of this flower. In an extra class for the best specimen Fuchsia, Mr. Harper was also successful in being first in competition with Mr. James; Mr. Harper exhibiting a plant of Catherine Hayes, and Mr. James one of Kitty Tyrrell. In the classes for Dahlias, owing to the unfavourable weather, the number of exhibitors was small. In the class for twenty-four cut blooms, Mr. H. Legge, of Edmonton, was first, and Mr. George Drain, jun., of Southgate Road, second. In the first class for twelve cut blooms, Mr. E. How, of Bromley, was first; Mr. Haws, second. In Fancy Dahlias, Mr. Legge was first. Mr. Legge exhibited a seedling dahlia named Prince of Wales, which obtained a second class certificate. In the class for twenty-four Asters (French), Mr. Robinson, of Church Road West, Southgate Road, was first; Mr. Ward, of Tottenham, second, and Mr. A. Forsyth, of Shacklewell, third. In the class for Twelve Asters (French), Mr. Noakes, of the Ferry Boat, Tottenham, was first; Mr. George, second; Mrs. Robinson, third, and Mr. Ward, fourth. Mr. George exhibited a stand of nine spikes of seedling hollyhocks, and Mr. Ward two stands of twenty-four and twelve single blooms. Mr. Smith, of Tollington Nursery, Hornsey Road, exhibited two stands of verbenas, in the stands of twenty-four and twelve; some new varieties were exhibited, which for size, shape, and colour were remarkable. Mr. King, of Clapton, exhibited twelve cockscombs, of extraordinary size, shape, and colour. Mr. Brace, of Stoke Newington, also exhibited twelve in this class. The splendid productions of Mr. King were very highly commended, and it has been but a sorry season for all this class of subjects. There was a pretty collection of gladioli from Mr. James, and some roses and other cut flowers, in great perfection, from Mr. George and Mr. Wray, of Lea Bridge Gardens. The great attraction of all was a magnificent collection of fuchsias, exotic ferns, lycopodiums, and plants of remarkable foliage, consisting of dracænas, caladiums, begonias, marantias, etc. Amongst the ferns were some remarkably fine specimens of gymnogrammas, exhibited by Mr. R. Oubridge, of Stamford Hill. The visitors, on entering the room, were struck with the beauty of these noble plants; their variety of colour and diversity of form, made them a distinct feature. These plants were not exhibited for competition, but for decorative effect. Mr. Harper also exhibited twelve large fuchsias in addition to those entered for competition; and Mr. Heard, of Culford Road, exhibited in the same way a stand of cut flowers. The entire arrangements were under the superintendence of Mr. R. Oubridge, ably assisted by Mr. T. Howes, of Highbury Nursery, Mr. Heard, and Mr. Forsyth. From the manner in which it was supported, we think it must be regarded as very successful, it being attended by a very large and respectable company, who seemed highly gratified. It is the intention of the promoters of this society to establish an exhibition, open to all classes of exhibitors, to embrace all varieties of plants and flowers, similar in purpose to the Horticultural Society; the success of the annual chrysanthemum show and this new experiment at the Albion Hall, affording a proof that such a society is very desirable in a district so renowned for its suburban gardens.

Tower Hamlets Floricultural Society, *Sept. 3rd and 4th.*—This is *de jure* a chrysanthemum society, but *de facto* a floricultural society; for finding the interval of a year from one exhibition to another a long one, the members have adopted the plan of a summer show of miscellaneous subjects. The exhibition on the 3rd and 4th was held in the grounds of the Eagle Tavern, Mile End Road, and was largely attended and in every way a success. With the exception of a few contributions from Mr. Broome, of the

Temple Gardens, and two professional florists, the whole of the productions were from amateur growers resident in the locality—a result far preferable to the crowding of the tables with nursery stock, intended much more to advertise trading firms than promote a genuine love of horticulture. The show comprised the leading subjects of the season; dahlias and fuchsias were excellent, balsams better than at many other places this season, asters good in growth and of good strains, hollyhocks equal to the best elsewhere. Mr. Allen, of Stoke Newington, had sent some well-grown fuchsias, and Mr. Wilkinson, of Old Ford, a very fine collection of balsams, asters, fuchsias, and hollyhocks; Mr. Legge, of Edmonton, three stands of dahlias admirably arranged. The prizes were awarded as follows to the amateurs of the locality:—Class 1. Twelve cut blooms of Dahlias—1st prize, Mr. T. Parker; 2nd prize, Mr. Page; 3rd prize, Mr. Cant; 4th prize, Mr. Pettegree. Class 2. Six Dahlias, cut blooms (fancies and stripes)—1st prize, Mr. C. Parker; 2nd prize, Mr. A. Fisher; 3rd prize, Mr. Cant; 4th prize, Mr. B. Pettegree. Class 3. Six Fuchsias—1st prize, Mr. C. Parker; 2nd prize, Mr. Gurney; 3rd prize, Mr. Page; 4th prize, Mr. Eickhoff. Class 4. Twelve Asters, cut blooms—1st prize, Mr. Gurney; 2nd prize, Mr. C. Parker; 3rd prize, Mr. Paterson; 4th prize, Mr. R. Fisher. Class 5. Six Balsams—1st prize, Mr. C. Parker; 2nd prize, Mr. Lupton. Class 6. Three plants, or six cut blooms—1st prize, Mr. Paterson; 2nd prize, Mr. Sinclair; 3rd prize, Mr. Parker; 4th prize, Mr. Rosenwold.

THE TEMPLE GARDENS AND THE LONDON PARKS.

In such a season as this gardens and gardeners should be dealt with in a spirit of gentlest criticism. We have had almost twelve months' continued winter, for the deluge began in the middle of October, 1859, and has had but few and brief intermissions to this present moment. The consequence is, that while such things as recently-planted conifers, newly-made lawns, American plants of all kinds, and a few other subjects, that need a cool bottom and abundant wet, have made wonderful growth, and are in possession of an abundant and luxuriant foliage, whatever needs sunlight and sun-heat has fared worse than in any season remembered by the oldest amongst us. Cabbages and cauliflowers make leaves like the dome of St. Paul's, but are as destitute of hearts as usurers in romantic novels. Fruits have no flavour, kidney-beans no pods; roses rot in the bud, refusing to open their pretty eyes on a wilderness of water; and the corn lays helpless and prostrate, soddened to the ear, and rank with mildew. What a season for the Temple Gardens, where Father Broome holds perpetual warfare with coal smoke, sulphur fumes, the damp of the river, and an exhausted soil. He grows older in years, but younger in enthusiasm, and in waging incessant battle with the elements, is always triumphant, and the hero of more than a thousand conquests. Thirty years ago, when Mr. Broome first took the Temple Gardens in hand, the atmosphere was comparatively pure, and the venerable trees that had given their leafy shade to the walks of Goldsmith and Johnson were in full health and vigour. Since that time the river has become a liquid railway, and previous to the passing of the Smoke Act, the steam traffic on the Thames and the chimneys of factories in the vicinity of the gardens and on the opposite of the river bred a black cloud, that hung like a curtain of crape over those once classic shades, and death threatened to sweep away the last relics of verdure in the City. It was a terrible ordeal that Mr. Broome's favourites had to pass through during the last few years of the unmitigated emission of coal smoke; but even then he held on manfully, and by perseverance and skill, he kept the garden together, and actually improved it in its general plan, and the variety of plants under culture. The chrysanthemum had been passing through remarkable phases in the hands of horticulturists. John Salter, of Hammersmith, had converted the loose, weedy, but still acceptable autumn flower, into a subject worthy of the most painstaking care, and hundreds of new varieties were from time to time originated, and each better than the last, so that the globular head of incurved petals carried by the Queen, Themis, or

Alfred Salter, bore no sort of resemblance to the original Chinese curiosity to which it was indebted for its parentage. But the passing of the Smoke Act lifted the veil of crape from the Temple Gardens, put new hope into the heart, and new life into the hands, of the veteran Broome, and he then commenced the restoration of the scene to something like the freshness it wore in the days of Addison and Steele, who at times sought inspiration there, in sight of the silvery river and the enjoyment of the rustling boughs. It has become famous throughout the land as the home of the chrysanthemum. Most of the societies about London and in the provinces, which exist solely for the encouragement of the culture of this flower, owe their origin to the example set before the world at Temple Gardens; and Mr. Broome himself, not content with labouring incessantly to produce us an annual show, which attracts thousands of the general public, and all the florists who can get to it by omnibus or railway, actually goes about, among the London suburbs, teaching artizans the art of managing their plants, and laying the foundations of local chrysanthemum societies. Let the possessors of London gardens, and the possessors of gardens in the vicinity of towns in all parts of the country, all who love the sight of a green leaf on house-top or balcony, take lessons of Mr. Broome by visiting the scene of his labours, and let all who have to endure from their windows the dismal prospects furnished forth in the neglected, ill-managed, scrubby, and soot-eaten London squares, observe how, within a stone's throw of the Strand, one earnest gardener holds enduringly to his task, and makes a paradise of smoke-town.

I went to the Temple Gardens a short time since, in no sanguine state of anticipation, and was most agreeably surprised. There is a splendid breadth of turf, cut up terribly where the children are allowed to romp, and the rifle volunteers to practice on it, but on the slope below what may, for distinction sake, be called the upper terrace-walk, where the flower-beds and roses are, it is fresh in verdure, with a close and springy bottom, consisting of the finest lawn grasses. I told Mr. Broome it was worth the journey to tread on such turf in the heart of the City. On the border of this upper walk is the rank and file of the show chrysanthemums, including all the leading varieties of the last ten years, respecting the names of which it is sufficient to refer to Mr. Broome's little book, which contains lists of them all. They are now in robust health, the foliage ample, and, through the plentifulness of rain, not in the least burnt or browned. They were then being tied out in regular lines by means of tarred yarn and iron rods, so as to withstand any amount of wind and rain when loaded, as they will be shortly, with their heavy blossoms. From this walk, looking down on the slope of turf, and around the distant borders, the scene is one of the most delightful description, always, of course, remembering where you are, in the very centre of an interminable forest of chimneys, which the Smoke Act does not coerce at all. There is plenty of real wood, as well as pretty baby trees, and the grass sparkles with flowers displayed according to the best rules of the bedding system. There are two rows of beds on the slope, and a row of half-standard roses between them on the turf. Among the flowers that are still good, we may mention a pair of beds filled with intermediate stocks that have been blazing with bloom since the middle of May. Early in the season the Cheiranthus Marshalli was used as a bedder, and when done bloom, Mr. Broome sent the stools to Hyde Park, whither I followed them later in the day. The Cheiranthus beds were planted with ageratums, which have bloomed abundantly. These beds are edged with the variegated ageratum. Calceolaria aurea floribunda has been one of the most useful plants, City smoke seeming to do it no harm. Tom Thumb geranium, edged with variegated balm, is also good on this slope, but the pride of the place has been two match beds of cloves, one at either end of the line, and a few beds of well-marked and abundantly-blooming pinks. Dahlias pegged down make a good centre bed, but hollyhocks have not come up to the mark, though we give all praise to Mr. Broome for his bold attempt, and hope he will try again with a bed lower down. We would rather blame the season than the place this time, for hollyhocks have had a severe trial everywhere. Strange to say, verbenas are as good here as any we have seen in all our travels this season. They are sprinkled about the borders plentifully; Defiance, Andre, Purple King, Mrs. Holford, and St. Margaret's have given abundance of bloom, and Mrs. Holford does not show a speck on her cheerful face.

And about the roses; they are on turf, which is against them, but Mr. Broome was right in the taste that suggested a line

of them to divide the two sets of beds. They have not made much growth this season, but they have bloomed abundantly. Géant des Batailles holds his ground well, and gives plenty of his high-coloured blooms. As the roses out of town are not now very attractive, it is not to be expected that in the Temple they would be at their best; but one plant of that superb tea rose, Gloire de Dijon, had on it a dozen charming blooms, one of them good enough to cut for exhibition. This was the exception; otherwise it cannot be said that roses are quite at home here, though a poor rose is better than no rose at all, and if it does not canker in the bud, is sure to be worth having. On their own roots and in open beds, we have no doubt some perpetuals would make a feature of sterling value. The varieties which have done best are Madam Laffay, on which we found a few nice blossoms, and indications that it had bloomed profusely; Jacques Lafitte, Mrs. Elliott, too shy for such an atmosphere, though it always gives a few blooms; William Jesse, a high-coloured rose of large size, and doing well; Duc d'Aumale, moderately good; Géant des Batailles, fine; and Gloire de Dijon, the excellence of which would surprise a rose-grower.

Among the border plants I noticed several good antirrhinums, phloxes, the showy Epilobium angustifolium, several of the hardy perennial asters, which are most acceptable in London gardens, though too often treated with disdain. Also Lupinus, digitalis, scabious, mimulus, and mignionette. In addition to the mischief from smoke, the small gardens of London are generally exhausted below and darkened above by the presence of large trees. There is so much delight to be got out of a tree where little else than bricks and pavements are to be seen, that it is better perhaps, that the humbler growths should languish than that any City tree should be cut down. Here, however, there is plenty of room, and the trees give the garden its proper character as a retreat, and a gap of goodness dropped into the heart of the murky town by the liberal hand of Nature. And real leafy trees they are that adorn the Temple Gardens, with their breadths of green and gold. Though they may shudder, as trees are wont to do, as the gusts come over from the river in miniature whirlwinds, they stretch forth their strong arms to heaven, as if imploring sunshiny blessings on the human crowd that swims around them in the streets and on the stream. If I were doomed to dwell in the City, I would have my lodging high up, near the sky, and near the Temple Gardens, and would imagine the trees there to join me in singing that sweet hymn of Briant's—

"Not in the solitude
Alone may man commune with Heaven, or see
Only in savage wood
And sunny vale, the present Deity;
Or only hear his voice
Where the winds whisper and the waves rejoice.

Even here do I behold
Thy steps, Almighty! here, amidst the crowd
Through the great City rolled,
With everlasting murmur deep and loud—
Choking the ways that wind
'Mongst the proud piles—the work of human kind
* * * *
Thy Spirit is around
Quickening the restless mass that sweeps along;
And this eternal sound—
Voices and footfalls of the numberless throng—
Like the resounding sea,
Or like the rainy tempest, speaks of Thee.

Near the entrance-gate at the west end of the upper walk is a fine catalpa, which has frequently bloomed, and is evidently in a prosperous condition. The araucarias on the turf are rather brown, but so they are in many other places this season where there is no smoke to adhere to their resinous exudations. The plane-trees which have been planted lately are making rapid progress, and promise to become noble trees. Beside the same gateway is an old fig, which Mr. Broome has cut in so as to make it form a flat screen. It grows with all its proper luxuriance. On the western border there is a nice bank of ferns, consisting mainly of Lastrea filix mas; but who would dream of finding here that queen of the filices, Osmunda regalis, with nice fronds of a foot long, and a spike of fructification, and in front of it some pretty aspleniums, and the fresh air-loving Blechnum boreale? Yet there they are, and mixed with periwinkle and money-wort, and lower down the mulberry proves itself a first-rate town tree by the shining freshness of its dense and cheerful foliage. At the south-east corner, beside the river, stand some limes, that have, year by year, been pining under the insidious attacks of atmospheric poison, and their last days are near at hand. All who know the Temple Gardens will grieve for the loss of them, for in their decrepitude they have a beauty of their own, and just now their golden livery, prematurely put on, gives at least a hint of Autumn passing her "fiery hand among the leaves."

I left the Temple Gardens to see the flowers in Hyde Park, and for three hours stumped about on the soddened grass with Father Broome, debating as we went whose feet would be first wet. Happily there

was no precedence of honours on either side; the water left its congenial clay for the inner surface of our uppers with great willingness, and we took stock of the 95,000 bedding plants that have been put out near Hyde Park gate, of the goodly ash, and plane, and sycamore trees on the slope by the bridge that shows the way to Kensington Palace, then went over the propagating and nursery department there, and finally surveyed the flowers in Kensington Gardens, where they were not half so good nor half so well planted as those in Hyde Park. People who have doubts about the possibility of growing flowers in London must first go to the Temple, and then to Hyde Park, and if they do not learn thereby how to make their small inclosures and parapets and windows gay, they must blame themselves, and not the smoke, the soil, or the laws of vegetation. The perillas at Hyde Park are the best I have seen anywhere this season. They are as large as cauliflowers, the foliage splendidly wrinkled and fantastically disposed, and their marvellously dark colour is tastefully set off by means of variegated balm and calceolarias. There is a narrow strip near Hyde Park Gate, from which a lot of worthless shrubs were removed some time since, to the indignation of certain members of Parliament and the half-witted people who hunt up subjects for letters to the *Times*. That piece is now a flower-garden; let the grumblers see and believe that the removal of the shrubs was only the sign that a horticultural harlequin had begun to wave his wand, to change the lilac scrubs into the garden of flowery delight. In the private garden at Kensington Palace there is a line of variegated balm and Lord Raglan verbena mixed, and that alone is worth going to see. Next spring you shall see there masses of Cheiranthus Marshalli and perennial Iberis, shining like gold and silver, for Mr. Broome's contribution has been propagated by the thousand, and the gardeners are determined to make the parks not only the lungs of London, but schools of colour, and botany, and good taste.

S. H.

KEEPING FRUIT.

It is quite important to keep fruit well as to grow it well; for, independent of the advantage of maintaining a supply until rhubarb and strawberries come in with the opening of a new summer, the festivities of the winter season, and of Christmas especially, make great inroads on the fruit-store, and without a good fruit-store, those festivities must be either additionally expensive or lack one at least of their prominent attractions in the way of table decoration and gustatory enjoyment. That fruit-keeping is not reduced to definite rules so as to be worthy of the name of an art, much less to make pretensions to come within the domain of science, is certain from the variety of the methods adopted, and the occasional failure of many or even all of them. The seasons have much to do with the preservation of fruit. After such a permanent deluge as the present, fruits of all kinds keep badly; even the most renowned winter apples are apt to turn to pulp, and the little golden pippins that are so prized at Christmas, are likely to be past their best long before that season of eating and drinking arrives. In the Floral World we have more than once recommended a simple plan which has been long followed in our own household and has proved the best of many which have been submitted to the test of experience. We have a number of glazed earthenware pans, the measurement of which is sixteen inches inside measure. These are all provided with close-fitting lids, and at the top of the house there is a broad platform assigned to one lot; and at the bottom of the house in a cool, dry, underground cellar, which has a thorough ventilation through it, is a rack-shelf running all round, where another lot is placed. These pans we use only for apples and pears that are to be kept as long as possible, and in them they keep till far into the next spring if proper precautions are taken in their management. In either case they are safe from frost. At the top of the house there is a slight rise of temperature on a sunny day, which is checked by means of a window which opens over the platform, but any serious rise is prevented by the distance of the platform from the roof, which is twenty feet above it, with a hollow loft intervening. The fruit is put in the pans when quite dry, with no sawdust or any other material between them. Just as gathered, without being rubbed, they are consigned to these receptacles, and in storing them every one that has the slightest speck is

either thrown out for immediate use, or left over to form the top layer. When the pans are full, the lids are shut down close, and the pans set in order, and from that time till the whole are consumed, the pans are opened once a week, the lids left off for an hour and then replaced. At the same time, any fruits that show a tinge of brown, or any other sign of decay, are removed. At every alternate airing, that is, once in a fortnight, a few of the top layers are removed, and perhaps one or two in the centre lower down, which allows of a pretty clear view of their general condition; and once a month the whole are taken out and replaced, and, of course, any removed altogether that show signs of distress. Decay is infectious; an apple that may have a slight bruise may pass muster at the first, but in a very short time a brown patch breaks all round the spot where it has been injured. If allowed to remain in the midst of a lot of sound fruit, those next it become similarly affected, and if no care be taken the whole store may very soon pass into a state of useless and obnoxious jelly. The examination is but a small task, even where there may be many varieties of fruit so stored. With an extra pan ready, the operation commences with removing the fruit from the first pan into that, and so on to the end, when the pan last dealt with will remain over to commence with next time. The *rationale* of the method appears to be that the exudations from the fruit condense upon them and form a sort of varnish. Being shut out from the action of the atmosphere the juices undergo a gradual change, and some portions of the acid are converted into sugar. Probably, also, carbonic acid is inclosed. Be the chemistry of the process what it may, we are satisfied that it is the best method of preserving apples and pears where the stock is of moderate extent. Where large quantities have to be dealt with, a more wholesale method must be adopted, and even then a store of pans for such sorts as Strurmer Pippin, Normanton Wonder, and other sorts that keep very late, should be resorted to to insure a supply to the very last.

Another and equally good method, and one applicable to fruit in large quantities, is by storing in sand. In a good dry shed, construct a set of bins, the front of which should slope outwards. Get a supply of pit-sand sufficient to fill the bins three parts full, and have it thoroughly dry when used. Where the heat of a kiln is available, the drying of the sand is but a small matter; in many places the heat of a kitchen fire could be turned to account: certainly the sand must be dry. In storing, get the fruit into the bins the day after gathering. Lay down a bed of sand six inches deep on a dry stone, tile, or wooden bottom; then lay the fruit regularly and fill up as you go on, taking care that no two fruits touch each other all through. Lay six inches of sand over all, and the work is completed. The same process may be followed with boxes, and every egg-chest or old hogshead about the place, if sweet and clean, may be pressed into the service, or even if a few boxes are made for the purpose, they will pay their cost in one season. Fill these in the same way, and store them anywhere for convenience sake, provided they are in an equable temperature; the cooler the better, but guarded against frost and damp. In conjunction with the sand system there should be in a rather warm place, a shelf of suitable size with a rim along the front edge; on this shelf lay two inches of dry sand or chaff, or any loose non-conducting clean material. The shelf should hold enough for a fortnight's consumption, and should be kept replenished at one end and the fruit used from the other, and shifted along from time to time to keep the shelf full. By this method the cook can help herself to ripe fruit as she requires it, and there need be no complaint of its quality or want of time to get it a moment's notice from the store. A few choice pears, taken from a bin or pan and placed in a drawer of a table, or in a fruit-dish, and shut up in a warm cupboard or chiffonier for a week, will acquire perfect ripeness and full flavour. Melting pears ought always to have a little warmth to render them fit for dessert.

When a fruit-room is determined on, a north aspect should be chosen, and there should be a window at each end with shutters, to allow of darkness, daylight, and ventilation at will. As a rule, the shutters should be kept closed, and as little ventilation allowed as possible, though occasionally a breath of air for an hour in the morning may be requisite. In a dwelling-house, a top room under a loft facing east or north may serve very well; but where an outhouse can be appropriated for the purpose, it will be a further advantage to have the fruit-room below the general level—of course quite dry; and if expense is not an object, built with double walls, which resist frost and heat alike. The best temperature is an average of 42°; frost is destructive, and a tempera-

ture over 50° not much less so. In large places a hot-water pipe could be carried along the cavity between the inner and outer wall, and during severe weather enough heat could be supplied to prevent the temperature of the store-room falling below a proper minimum. For the shelves beech or elm should be preferred to deal, which is apt to communicate a flavour of turpentine. We have found well-seasoned red deal answer for kitchen apples and baking pears, but we should not like to trust any kinds of dessert fruit to it. In managing such a room there must of course be pretty free ventilation when first stored; but that should be diminished, and in the course of a fortnight cease altogether, except for such occasional uses as changes of weather, etc., may necessitate. Damp must be driven off by a brisk current, and the window closed as soon as possible. Light should be admitted only when required for inspection and removal of fruit, and a sharp watch must be kept against rats, mice, and all other vermin.

Perhaps a word or two may be useful, in conclusion, on the gathering of fruit; for, unless it be properly gathered, it is just impossible to keep it, no matter what plans are resorted to. There must be no bruising, no tumbling of it about on the grass, or rolling it headlong from baskets to wooden floors. Let the gardener handle them as Isaac Walton handled frogs, as if he loved them. The careless way in which fruit is half-torn from trees, and shot like gravel on to barn floors and kitchen pavements, has more to do with rendering it scarce in the depth of winter than any of the mistakes as to keeping. Gather before it is dead ripe, when it parts easily, and has its proper colour. To heap up for fermenting is a mischievous practice; all it does for the fruit is to set the first stage of decay in action. A careful handling and preservation in an equable temperature are the two leading points; after that use the vigilant eye, and you will be repaid for your extra trouble by having plenty of apples, pears, and quinces when such things are scarce, and when, if you had not used such precautions, you must pay high prices for the enjoyment of them.

HYBRID RHODODENDRONS.

The high character these have acquired by careful breeding, in the hands of such masters of the hybridizing art as Mr. Standish, the Messrs. Waterer, and others, who, having large nurseries in peat districts, enjoy many facilities for this department of horticulture, has brought the Rhododendron into the category of florists' flowers, and, at the same time, made them more available than they were formerly for the highest style of garden and shrubbery decoration. Many of the best of the new varieties will grow in a good loam, and in districts where peat is expensive, and the soil of the garden unsuitable, leaf-mould or artificial peat may take its place for securing a rich display of summer bloom and fine masses of foliage the whole year round. We advise planters of rhododendrons to use good turfy peat if it can be had. We use the peat from Wanstead Forest, mixed with an equal proportion of silky yellow loam from the same district, and our plants thrive in it with an amazing vigour. We have most of the original species, as well as some of the best hybrids, and we have grown some for experiment in a mixture consisting wholly of rotten wood, decayed leaves, and sandy road drift. In this mixture they have made good growth, and have bloomed abundantly, but their progress is not so satisfactory as those planted in the mixture of forest peat and loam. Kalmia latifolia we consider a good test-plant, for it will pine in many soils where Ponticum rhododendrons prosper, but Kalmias planted in the compost of leaves, rotten wood, and road grit, are in the enjoyment of rude health, having recovered in it from a sickly condition, consequent on having stood for eighteen months in a loam uncongenial to them. This is the best time of the year to plant American shrubs of all kinds, and we give a list of a few of the best, to enable intending purchasers to make selections. It should be remembered that American shrubs never do well till they get thick, so that in planting only so much space should be left between the plants to allow for one season's growth. When they meet, their ample foliage screens their roots from the sun, and they flower in their full perfection. For this reason, as well as the peculiar soil they require, they are more likely to succeed in beds or compartments by themselves, than planted singly in mixed borders.

There is nothing that gives greater satisfaction for clumps on lawns than a

good selection of rhododendrons. The beds should be filled with at least two feet of the best peat or peat and loam, and if on a clay bottom and the top of the bed a little below the grass, the best conditions of success will be secured.

SELECT HYBRID RHODODENDRONS.

White.—Album grandiflorum; Alarm, blush white, margined with crimson; Due de Brabant, salmon white; Ebuneum; Enchantress, yellow marking; Gloriosum; La Vivandière; Luciferum, clear white; Perspicum, very large.

Rose.—Curricanum, purplish rose; Egregium, light rose; Jubar, clear rose, chocolate spots; Madame Van de Weyer; Mrs. S. Waterer, clear rose, spotted; Omphale, scarlet rose, orange spots; Roseum pictum, light rose, paler centre; Roseum superbum, fine rose; Sir Colin Campbell, light rose, with black spots; Zenobia, clear rose.

Crimson and Pink.—Barclayanum; Blandyanum, immense truss, fine foliage; Callandarianum, with dark spots; Celebrandum, claret; Coneessum; Delicatissimum, tinged pink; General Havelock, late; General Canrobert, dark spots; John Waterer, carmine, immense truss, finely spotted; Lady Eleanor Catheart, chocolate spots; Lady Wenlock; Lefevreanum, crimson, shaded purple; Leviathan, glowing crimson, immense size; Prince Albert; Princess Amelia, immense flower; Sun of Austerlitz, brilliant scarlet; Vandyke, clear rosy crimson; Victoria, claret crimson.

Rosy Lilac and Blush.—Aclandianum, blush, chocolate spots; Everestianum, rosy lilac, prettily fringed; Sherwoodianum, rosy lilac, spotted; Sebastian, light lilac, spotted.

Dark.—Blatteum, purplish lake, fine foliage; Melanthauma, dark purple; Maculatum nigrum, very dark; Nireus, light purple, dark marking; Piombo, dark scarlet; Purpureum grandiflorum.

The unnamed hybrids are of course the cheapest, and many of them are little less beautiful and quite as full blooming as the most expensive named kinds. For large masses these are quite as effective as the most expensive kinds, and may be had of the growers at from 30*s.* to 60*s.* per dozen—a price often paid for common evergreen shrubs that have not a tenth of the claim to admiration which these noble flowering shrubs possess. Mr. Standish has a fine strain of white flowering rhododendrons, which have been the admiration of all good judges of effect in garden decoration; and to him we are indebted for such varieties as Brilliant, the nearest approach to scarlet yet attained; Minnie, the most curiously-marked chocolate blotches on a white ground; Limbatum, a wonderful bloomer, pale blush, bordered with crimson; and Standish's Perfection, peach with brown ochre spots, the finest-shaped rhododendron out; and many others of similarly distinct excellence. Those who do not care to go to the expense of peat, but who have a good sandy loam quite free of chalk or lime, may plant common Ponticum rhododendrons; and if planted thick, and well supplied with water in dry seasons, there will be little risk of their doing well. The Gem, a charming blush, tipped with rose and with buff spots, will grow in pure sand, and in any poor sandy loam if free of chalk; but on chalk or lime, or with any admixture of it, in the soil, none of the shrubs known as Americans will do any good at all. The variegated Ponticum and the Bride, which has variegated leaves, make handsome centres to rhododendron beds.

TREE-FERNS.

One of the most pleasing signs of the times is the increasing love for ferns. Day by day the numbers of the cultivators of this beautiful tribe of plants is steadily increasing. The arborescent species are now coming in for their share of public patronage: many an homeward-bound barque is bearing to our shore sundry dry cases, rudely manufactured of rough planks in some primæval forest, and containing the trunks of these elegant and graceful trees, torn from their native soil. A few weeks since, we saw half-a-dozen such packages unloaded at the Docks. Some of these find their way to nursery gardens, especially those of Messrs. Veitch and Rollisson, and Mr. Backhouse, of York; but more than once lately there have been fine stems sold by auction in the well-known rooms in Covent Garden. Ten years ago, and one would have had a long day's journey before them, if they wished to see a dozen tree-ferns, but now they are becoming much more plentiful. Their cultivation is a new feature of the horticulture of the day, and we make no apo-

logy for introducing a few practical remarks upon the mode of treating them.

Let us commence by saying that there s no difficulty about their culture, providing only that the atmosphere is of a temperature to suit them, and sufficiently moist. There is, however, one fern which s an exception to this rule. Alsophila capensis, the tree-fern of the Cape of Good Hope, seldom, if ever, succeeds to one's satisfaction—nine out of every ten plants look feeble or half-starved; perhaps this is, however, only some fault in the stems which have been sent over. Time may teach us better, but at present we would say, if you intend to grow a few tree-ferns *don't* let A. capensis be one of them.

And now, let us suppose that some obliging friend, in Australia, satisfied with the success of his labours at the "diggings," has found time to attend to that letter you wrote him anent these tree-ferns. He has, without difficulty, found some specimens with stems from four to five, or even six feet long (that is quite large enough); he has cut away all the fronds, and dug them up, without taking the trouble of saving any of the roots. In fact, they are stems, and nothing more—stems, sans fronds, sans roots, sans everything. He leaves them out in the air for a few days to dry, and then packs them with shavings in a box; let him be especially careful that this box be not air-tight—that is their greatest danger. In this way they generally come with pretty good success, a large majority of them quite safely. And now, as we unpack them, let them be placed upright in some close, cool, dark corner—under the stage of a greenhouse is as good a place as they can have. Give them a syringing once a-day for the first week, and after that two or three times a-day; never allow them to get quite dry. By the end of a fortnight, or even sooner, you will observe the points of new roots starting out upon the stem, and the closely-coiled up fronds in the centre to be pushing upwards.

They may now be safely potted, and the mixture I have found suit them is very rough fibrous peat, a small quantity of loam, some leaf-mould, and plenty of good sharp sand; and, while potting, throw in a few handsful of charcoal or broken brick rubbish, not mixed with the soil, but thrown in by itself here and there. You see by these directions that I have no faith in *exact proportions* for mixing soils, and my candid opinion is that the mechanical condition of the soil has more influence than anything else. Let it then, above all things, be open and porous. Use pots as small as you can in the first place, and shift them from time to time as the plants may require it, using the same kind of soil. If allowed to become pot-bound, the fronds soon dwindle in size. Keep them always moist at the root, and during nine months of the year the stem should be kept constantly moist. This can easily be done without wetting the fronds much, which is not always beneficial. Do not expose your plants to draughts of dry air, and shade from bright sunshine. Following these simple rules, your tree-ferns will be an ever-increasing source of pleasure.

No cool conservatory, of any size, should be without a plant or two of Dicksonia antarctica, or the stronger growing D. squarrosa. Cyathea dealbata, which will also succeed well in a cool greenhouse, is beautifully white on the underside of the fronds. Alsophila australis may now be bought moderately cheap in its seedling state. I had one eighteen months ago with fronds only three inches long. At the present time the head of that same plant is seven feet through; but I have grown it in more heat than it requires, and as soon as it is a little larger, it will be removed to the cool conservatory.

The stove kinds require precisely the same treatment, except with regard to temperature. This should not be allowed to fall below 50° on winter nights, and the ordinary heat of a stove will suit them well. M. Linden, of Brussels, has, perhaps, the largest collection of tree-ferns in Europe. He informs me that he cultivates forty-seven species of them, and that he is just now erecting a house especially for their accommodation.

CULINARY USES OF TOMATOES.

Several correspondents have written to ask for recipes for dressing tomatoes. They have good crops, and know not what to do with them. Former attempts at making the far-famed tomato sauce having failed, these recipes have all been tried by us, and we offer them in the fullest confidence.

Tomato Sauce for Cold Meat.—Boil tomatoes when ripe with only enough

water to prevent burning; rub them through a cloth; to every quart of pulp add half an ounce of garlic and one ounce of shallots; salt to taste, boil half an hour, strain out the garlic; add to every quart half a pint of common vinegar, and a wine-glassful of chilli vinegar; let it stand a day or two before corking.

Potted Tomatoes.—Reduce your tomatoes over the fire till they are quite thick, stirring all the time to keep from burning; rub them through a tammy, put them again into your stewpan, with an equal quantity of glaze, and reduce again over a sharp fire, till you think the whole will be quite firm when cold (or like glass); put them into a white earthen pot; when cold cover them with writing paper dipped in brandy; pour over some warm hog's lard, and cover all over with a bladder tied quite tight. A small piece added to a little gravy or melted butter will make an excellent sauce for cutlets or chops.

Tomatoes plain.—Reduce as before; be more careful in evaporating the water from them, rub them through a tammy, put them when cold into fruit bottles; they must be corked very tight and tied down; put the bottles nearly up to the cork into cold water, over a gentle fire, till they boil, then set them on one side till cold; take them out and dip the cork in good cement of bees'-wax, rosin, etc. This may be used in making sauce for cold meat, or as above by adding strong gravy.

Tomatoes with Gravy.—This is simply stewing your tomatoes in a little good gravy till quite tender, keeping them whole, drain them on a sieve, dish them up, and pour a little half glaze, and a teaspoonful of vinegar mixed with it, quite hot, over them.

Towit of Tomatoes.—Take a pint of tomatoes, add a pound of fine sugar, reduce it in the same way as a jam, add the juice of a lemon; this makes a very good towit. Put into vinegar, they make a very good pickle.

Tomatoes as Dried Fruit.—Reduce the pulp, say a pint with a pound of fine sugar, till quite stiff; pour it on your tin; it must be dried in a stove; when nearly dry, cut it into what shape you please. It does for ornament in the desert.

REMINDERS FOR OCTOBER.

Auriculas.—Get into their winter quarters. A west aspect is the best. Have all clean and tidy, and keep the plants in hardy growth by plenty of air.

Azaleas and *Camellias* are, of course, all under glass by this time. Give plenty of air, and as little water as possible to promote the ripening of the wood.

Cinerarias should now be coming on thriftily, but are generally not very promising this season, except where struck early; shift any that require it. Give plenty of air to the stock, and keep down green-fly and mildew. The earliest for next season's bloom should now be in their flowering pots.

Conservatory.—Give a large and strong dose of liquid manure to tea-roses and other shrubs that were pruned in last month for late bloom. If given when shutting up at night, there will be no trace of it in the atmosphere next day. Summer-struck cuttings of heliotropes will now be coming into bloom to make the house fragrant, and many other useful odds and ends may be introduced among the specimen plants to prolong the attractions, as out-door promenading is at an end.

Forcing Pits.—It is time now to set rhubarb and sea-kale to work for the first supply. It is a good plan to lift the rhubarb roots, and let them lay exposed on the ground for a week or ten days before starting them into fresh growth. French beans may be sown in pots, and put on a flue or tank to be planted out in cucumber and melon pits. Lettuces, parsley, and mint should be pricked out in a cool pit for winter use, and a few stools of mint should be potted and stowed away in a cool place, to force in succession.

Greenhouse and Pit.—Get up all the bedders quickly; they will suffer if left any longer in the ground. See the papers at pp. 198, 230, vol. i., and pp. 59, 227, vol. ii., of the FLORAL WORLD, for very copious instructions on the preservation of bedders. Put in cuttings of calceolarias. Get the whole stock arranged so that there need be no further disturbance of the shelves and stages, and have everything clean and tidy.

Kitchen Garden.—Any potatoes not yet stored, to be got up at once. There is much disease among the crops this year, but we believe they are not generally so bad as they are reported. Carrots should also be stored, but parsnips may remain till the ground is wanted. Prick out cauliflowers in clumps, and put the hand-lights on at once. They can be taken off again in a week, and kept off till frosts

threaten. We find it best to encourage quick rooting by this means, as a preparation of the plants to endure the winter. All cabbage worts to be hoed between, and dead leaves picked off. Strew quicklime over newly cleared ground, and also over the stuff in the muck-pit once a-week during this month, and you will get rid of myriads of vermin that are now preparing to lay by for the winter.

Tulips to be sorted over, and arranged or planting. In a bed of fancies, be particular as to heights, as it spoils a bed to get first or second row flowers into third or fourth rows. Contrasting the colours is of far less consequence than getting the heights correctly, and some sorts grow taller or dwarfer than they are marked in the catalogues, where any peculiarity of soil affects them. Border and bedding tulips should be ordered in quantity at once. See on this subject the remarks at p. 117 of this year's volume.

Vinery.—Prune the vines that are to be started first, and clean the stems. Keep the sashes off till about the 20th of the month, and then put them on, and cover the border with leaves and sloping boards.

TO CORRESPONDENTS.

THE GARDEN ORACLE FOR 1861

Will be ready with the November No. of the FLORAL WORLD, and it will be advisable for those who wish to have it immediately on publication to give orders to their booksellers at once. It will contain Lists of the Winning Flowers of 1860, Lists and Descriptions of New Florists' Flowers, New Fruits and Ornamental Plants of recent introduction and special value, besides the usual selection of new and old varieties, suited to the wants of amateur cultivators. Also, an account of a new Spergula, which, in some respects, surpasses S. pilifera in its rapid growth on barren soils; an Essay on the Amateurs' Greenhouse; with lists of subjects to insure a beautiful display at all seasons of the year; besides Notes on Herbaceous Plants, the Management of Bees and Poultry, and various Hints for the Country Housewife and the Gardener. Copies of the ORACLE for 1859 and 1860 may still be had, and will be found most valuable for reference by all who are interested in practical horticulture and the growth of plants for exhibition, on account of the permanent value of the lists and selections.

VARIEGATED PERIWINKLE, ETC.—*A. B.*—There are several varieties of variegated periwinkle; they are all of the same habit, and differ only in the amount of variegation and peculiarity of markings. Yours is V. minor Elegantissima. The Vinca major has larger leaves. In cold, damp places these should be taken up and potted for the winter, and in the spring may be propagated from cuttings. To keep them true, they should be grown in poor soil; in rich soil they are apt to run back, and acquire the healthy green of the common periwinkle. We received a prunella from you which was named, but not Chrysanthemum segetum, though the latter came from several other correspondents. The best book on British wild plants is Dr. Deakin's "Florigraphia Britannica," sold at £3 10*s.* Babington's Manual at 7*s.* 6*d.* may suit you. Sedum acre is not entered in the list you refer to; seed of it is seldom saved. We do not know it by any other name.

SHRUBS UNDER TREES.—*C. L., Putney.*—We have several times given lists, but as this is planting time we will, for once, not object to a little repetition. Common tree-box, Aucuba japonica, common evergreen Euonymus, common privet, phillyrea, ivy, and periwinkle are the leading subjects for such work. In addition to these, we have, in the most luxuriant health under the heaviest shade of horse-chesnuts and close walls, the following:—Taxus canadensis, a beautiful upright yew; Taxus adpressa, a still more beautiful dwarf yew, which spreads laterally and almost as flat as a table, and is really fine for a front row; common holly; variegated holly; American Arbor-vita; Ligustrum japonicum, a very beautiful privet; Ligustrum lucidum sempervirens, almost as handsome in foliage as a camellia; Skimmia japonica, very dwarf, and a wonderful bearer of berries; hybrid rhododendrons; Berberis japonicum; B. fascicularis hybrida; B. aquifolium; variegated box. These are all in stiff, ungenial loam, except the rhododendrons, which are in peat. To these you may add common yew, any of the ornamental varieties of bramble, Hypericum calycinum and elatior, and the noble Cephalotaxus Fortuni. Beware of conifers, laurels, Portugal laurel, and Lauristinus. We had hopes that Thuia plicata would answer, but in a row of a dozen plants, three years planted, those in the deepest shade are dying; those in moderate shade are shabby, and those slightly shaded are a little browned. The first two seasons they exhibited signs of being able to endure the shade well. Pinus rubra did well for a time but is now going. We are rather surprised at American Arbor vita doing so well; one of them in most perfect health is almost in darkness. You would do well to consult the lists in the "Town Garden;" they include every variety of hard and soft-wooded plants for suburban gardens, and are the result of many years experimental culture.

CATALOGUES AND BOOKS.—We have received a large number of trade catalogues, which we regret to be obliged to dismiss in few words. "List of Bulbs and other Flower-roots, sold by Messrs. E. G. Henderson and Son, Wellington Nursery, St. John's Wood, London, N.W.," contains short notes on culture, and rules for selecting varieties, as well as copious lists.—"Milne and Co.'s Catalogue of Hyacinths, and other Dutch Flower-roots, sold at the Nursery, Wandsworth Road, London, S." Not a bulky list, yet a good one, and containing all the best leading sorts.—"Hooper and Co.'s (centre Avenue, Covent Garden, W.C.) Autumn Catalogue of Dutch, Cape, and other Bulbs, with Descriptive and Cultural Notes." Beside bulbs, there are lists of alpines, ferns, herbaceous plants, roses, and window elegancies, useful in plant culture.—"Sutton and Son's (Reading) Autumn Catalogue of Hyacinths, Crocuses, Tulips, etc." This also contains lists of geraniums, carnations, roses, fruit-trees, etc.—"Catalogue of

Choice Tulips, grown and sold by W. H. Lawrence, brother and successor of the late R. J. Lawrence, Hampton, Middlesex." Growers of show tulips must consider this essential in improving their collections, and in setting out new beds. The name of Lawrence is identified with the history of the tulip during a long period of increasing improvement and popularity.—List of New and Beautiful Plants, offered by Messrs. James Veitch and Son, Exotic Nurseries, Exeter and Chelsea, contains the new Athyrium f. f. multiceps, Calceolaria flexuosa, new Begonias, Cattleyas, Clerodendrons, Epacris, and other recent valuable importations.—"Catalogue of Plants cultivated for sale by Thomas Jackson and Son, Kingston, Surrey, S.W., and Royal Gardens, Hampton Court." A most interesting list of stove and greenhouse subjects, to which are added lists of new and rare hardy ornamental plants.—"New Roses for 1860, grown for sale by Charles Noble, the Nurseries, Bagshot." In addition to many new roses already noticed in the FLORAL WORLD, there is Gloire de Santenay, which we believe will prove superior to General Jacqueminot. Whether it does so or not, it is certainly a most valuable addition to the high-coloured class of perpetuals. We are in the habit of getting very miserable examples of plants when ordering new roses, and we will do Mr. Noble the justice of saying that those received from him this season were fine plants, the pots full of roots, and the foliage robust and healthy. If new roses were always sent out so, there would be a hundred times the number of buyers for them than there are at present. Charles Noble's "Catalogue of new plants" contains some curious and interesting subjects, and among them Spiræa nobliana, which Dr. Lindley has lately named as a most beautiful addition to this interesting class of flowering shrubs. We believe both the Doctor and Mr. Noble are mistaken as to its botanical history; but that has nothing to do with its claim to favourable reception as a new and useful ornamental plant.—"Catalogue of some of the Principal Plants sold by John Standish, Royal Nursery, Bagshot." As usual, particularly interesting in lists of gladioli and rhododendrons, besides many new and beautiful hardy trees and shrubs.—"Descriptive List of Pelargoniums, Fuchsias, Pansies, etc., grown and sold by John Dobson and Son, Woodland's Nursery, Isleworth, W." A truly valuable list of azaleas, cinerarias, fuchsias, new and old pelargoniums, pansies, verbenas, etc.

GREENHOUSE BULBS AND GREENHOUSE ORCHIDS.—*A. B. S., Torquay.*—You will do quite right to select Lilium excelsum, eximium, japonicum, speciosum, and Thomsonianum; Aletris capensis, all the Babianas, Brodiæa congesta, and Calliprora flava, Coburghia incurvata, Corydalis nobilis and tuberosa. Ixias in variety, Lachenalia the same, or if only one, have quadricolor, Ornithogalum aureum, Sparaxis in variety, Valiota purpurea, Tritoma uvaria, and Hookeri, Tritonia aurea and miniata. Respecting Amaryllis, Agapanthus, Scillas, and Alstræmerias, we presume you are not in need of information here. We strongly recommend a most beautiful and scarce bulb, Cyclobothra alba, to all who can get it, as a charming subject for pot culture. The following are also good greenhouse and stove bulbs:—Amorphophallus bulbifernm, Crinum amabile, Cucuma rubricaule, Hymenocallis expansa, Pancratium caribæ. The following are twelve useful orchids for culture in cool houses:—Cattleya Skinneri, Cypripedium insigne, Dendrobium densiflorum, Lælia acuminata, Oncidium sphacelatum, Cymbidium sinensis, Epidendrum aurantiacum, Maxillaria Maclaii, Odontoglossum grande, Lycaste Skinneri, Lycaste crucata, and Pogonia ophioglossoides.

BULBS FOR WINDOWS.—*Lansdowne.*—You cannot do better than get a supply of hyacinths, crocuses, snowdrops, jonquils, and early tulips for your window, and follow the directions given in the FLORAL WORLD for their culture in pots and glasses. The only greenhouse bulb we should recommend to you is Lachenalia quadricolor, to be potted in fresh sandy peat, about a dozen bulbs in a five-inch pot. Correas are beautiful evergreen greenhouse shrubs, but hardly suitable to your range of practice.

GREENHOUSE REMOVAL AND HEATING.—*C. J. F.*—You certainly have no right to remove any part of the house. Your plan of heating is one we cannot approve. If you use gas, have a boiler in an adjoining shed or apartment, and carry a pipe from it round the house. If you object to the expense of this, be content with a flue. Of course you are aware that gas costs five times as much as coke for greenhouse heating. Roses on their own roots are as easily obtained as roses in any other shape. The worked roses sent you may be very good, but if you ordered them on their own roots, your wishes ought to have been complied with: in future, insist upon having what you want. Your plant that makes such thin roots is in need of more nourishment, or if a worked dwarf, perhaps the work is above instead of below the surface of the soil. If planted deep enough, worked dwarfs make roots above the work in the course of time, and thus become independent of the stock.

NAMES OF PLANTS.—*C. B. K., Ireland.*—Polystichium acrostochoides, Polypodium alpestre.—*P. M. K.*—Your specimen of leaf with flowers laid on it is Lantana aculeata, which ought to have stove treatment. It would answer as a bedder only in warm seasons.—*A. B.*—The coarse-looking weed is a Scutellaria, but we cannot say which; the other is Dracocephalum nutans. We received Chrysanthemum segetum from several correspondents last month, but not from you.—*R. C., Morpeth.*—The shrub is Veronica Andersoni. The strawberry leaf we cannot name, nor can we name any species or variety from a leaf only.—*R. G., Gretton.*—No. 1 is Lobelia erinus; No. 2, Sedum denticulatum. We found no insects in the box with the leaves; but the leaves themselves inform us that your only remedy is to be found in hand-picking.

ROSE FENCE.—*Kate.*—For so low a fence moss roses would be charming, but would not gratify you a sufficient length of time. We should recommend Chinas, if you want continuous bloom; but they have little scent. Souvenir de Malmaison would be charming, but perhaps not continuous enough. Géant des Batailles and General Jacqueminot would give far more colour than other roses of the same degree of exuberance, and would train in well. Mrs. Elliott makes a nice fence, but after the first bloom she is very shy. Madame Laffay, a cheerful colour and a fine rose, would also be suitable. Russian violets, planted now, ought to bloom well next season. Use rich soil and plenty of charred material mixed with it.

VARIOUS.—*C. J.*—Any of the roses named as good for towns will do in pots, except General Jacqueminot, which does not bloom as it ought to in pots, though one of the best of town roses.—*R. R. R.*—If the Panicum has not flowered, it will keep green and fresh all winter, with cool greenhouse or window treatment. You need not be afraid to keep it moderately supplied with water. It will flower next year at about two feet high, and after flowering will ripen seeds and perish.

THE

FLORAL WORLD

AND

GARDEN GUIDE.

NOVEMBER, 1860.

METEOROLOGY ought to be well understood by the people of this country, seeing that the staple subject of daily greetings is "the weather." Yet how few, even of those whose avocations have to be pursued out-of-doors, make the weather a subject of systematic study, or even of systematic observation. We respect that practical knowledge and power of prediction which we often see exemplified by sailors, shepherds, gardeners, and others who spend the most of their waking hours in the open air; but we must give greater heed to the knowledge that has a scientific shape, because the first teaching of science is the futility of guessing. That a capability of seeing a little distance into the future, as well as a habit of observing systematically the "signs of the heavens" as they change before us, are essential to gardeners is a mere truism; but it is not a truism to say that gardeners have neglected meteorology too long, and have paid heavy penalties for their remissness. We have no intention now to go into the subject, but the anticipations of frost and wind which possess us all at this season may render at least one suggestion seasonable. In "Recreative Science" it was lately suggested that a distribution of barometers should be made gratuitously to fishermen and coasters, and our suggestion is that barometers and thermometers would be capital things to offer as prizes at local flower-shows, instead of cups that are of no use, and half-crowns that none are the richer for. In several places our suggestions for the adoption of prizes in kind instead of in money have been carried out with complete success. Implements, vases, books, and useful elegancies have proved much more acceptable to amateurs than small money prizes, which are generally too small to be refused on the score of pride, and rarely large enough to pay the bare expense of sending the winning stand to the exhibition. Barometers and thermometers are as necessary to gardeners as forks and wheelbarrows. The barometer will give him twenty-four hours' notice of a coming storm, and

give him time to prepare for it; it will indicate the state of the weather for the next week, the next fortnight, or even the next month, when he has acquired experience of its movements; and if it only enables him to choose his work for the day, it does enough to give it place as a necessary adjunct to the pursuit of horticulture. If any of our friends act upon this suggestion, we advise them to have nothing to do with fancy instruments, or with instruments from questionable dealers. The old-fashioned clock-face barometers are base deceivers, and among the thermometers of pretension not more than thirty per cent. are worthy of house-room. Nevertheless, faithfully-graduated instruments are now to be obtained at very moderate prices, and every local society ought to make a selection of a few to distribute at every exhibition.

Two members of a floricultural society submit to us a case for our advice thereon. They are evidently not aware that, to give an opinion, much less advice, it is necessary to hear both sides. Perhaps their own strong sense of what is right, and their conviction that the other side must go by default, suffices them; but it would be unfair, perhaps unkind, if we were to pronounce decisively on an *ex parte* statement. Now we do not want to hear what the other side has to say, nor do we intend to enter minutely into the case submitted; but a few words of general import may not be out of place, for offences will come, and as societies multiply there will be the more opportunities for human failings to make themselves manifest. The twisting of rules for the promotion of party interests, or the predominance of a clique, generally ends in the secession of members who cannot endure to be made tools of, and are not sufficiently pugnacious to fight it out. But when a man determines to take his departure in disgust, he should first ask himself whether he is yielding to his own temper or to a proper sense of dignity and right. In such matters we are apt to humour our own whims, and call it "duty;" whereas, if a society is projected to accomplish a certain good, duty demands of us to stand by in its defence, not to abandon it to those whose chief desire is to triumph, and no more. In the case before us, the rules appear to be at fault in this respect, that it is not definitely laid down when or how the officers are to be elected. The absence of such a rule leaves the door open for turning out Mr. A. and electing Mr. B. at any time, if there are rival cliques at work; but if it be a distinct rule that officers are to be elected at general or special meetings, after a certain length of time has elapsed to give the members notice of a vacancy, or submit the names of candidates, there it is in black and white, and elections conducted in any other way are null and void. Then it appears to be the practice in some places to admit strangers *ad. lib.*, and allow them to speak and vote on the assumption that they have come there to offer themselves and their subscriptions in membership. Such loose work is sure to fall to pieces. As a rule, the committee of a society should consist of a fixed proportion of amateurs, gardeners, and cottagers, in order that all interests may be represented, and it should be the fixed determination of a committee so constituted to work together in harmony, with the Scriptural precept before them, "Each esteem the other better than himself." But suppose craft creeps in, are the honest men to fly? That is just what craft would rejoice at. Honest men are always objectionable in the eyes of rogues, but that is no reason why the

rogues should make a clear sweep, and get into their own hands an institution intended for mutual benefits. No. If craft shows its head, let the good men hold together, and defeat it, not by angry words, but by a temperate but firm adherence to the rules, and take care at starting that one rule shall be to provide for their alteration when necessary, at the annual meeting, or some other suitable time when the whole of the members are supposed to be present, so that it shall be in the power of none to change the constitution by waving a harlequin's wand. Gardeners are peaceable people, and they value association for its social uses as well as for advancement in their profession. But earthquakes will happen, and we must do the best we can by timely precautions, and the exercise of forbearance and prudence, so that when the shock does occur, we may be instructed but not injured by it.

Those of our friends who are in fear as to the Chrysanthemum shows, may take comfort and stifle their alarms. The season has tried them, as it has done most things; but the fine weather of the last four or five weeks has matured the wood, and brought the buds on rapidly and safely, and the shows of the present month will be equal to any of former years. Stoke Newington is, of course, already pregnant with its annual triumph: the old Society, meeting at the Manor Rooms, will hold its show there on the 8th and 9th, and the new Society, meeting at the Rochester Castle, will have its exhibition at Hackney. The East London Society will, as heretofore, meet at Albion Hall; and the Tower Hamlets, Bermondsey, and other metropolitan gatherings will take place in the same places of meeting as in former years. At the Temple Gardens, the early kinds already look well, and have been improving rapidly during the past fortnight. The grand show there will be on the Upper Terrace-walk as usual. The large flowering kinds in that border are pictures of health and beauty. The Crystal Palace will take many of the best plants from the local exhibitions, and the furnishing stock of the Company's own plants, to fill up the tables, are in the best trim possible for producing a splendid effect. Among the new ones Augusta has, with us, been well out since the 15th; it is a charming light flower, small, rather flat, imbricated, and even edged. The habit is all that could be desired, and it holds its blooms conspicuously without drooping. Arthur Wortley and Mrs. Holborn will, doubtless, take the lead at the shows among last year's flowers. Mrs. Turner, Musidora, and Emily will be favourites among the new pompones, and Golden Queen of England, now established as invaluable, will have its proper place among the specimens. We advise those who visit Mr. Salter's show, at the Versailles Nursery, Hammersmith, to inquire after Golden Lotus. This has been kicked out of a good many collections because of its shyness; but it is the very best of its class to bloom under glass, and for conservatory decoration may be had in bloom from November to the end of January. Once more we protest against dressing, and counsel the framers of schedules to enlarge the classes for flowers shown as cut, with a good length of stem and natural foliage. Good blooms are not a sufficient test of culture. The plants from which they are cut ought to be healthy and handsome, however spare, and give proof, from head to foot, of having had kindly usage.

NOTES OF THE MONTH.

Horticultural Society.—It is definitely announced that the new garden at Kensington Gore will be publicly opened in May next. The groundwork being now nearly completed, planting is being pursued with vigour under the direction of Mr. Eyles. A considerable number of large ornamental trees and evergreen shrubs will be removed from Chiswick, and every means within the compass of horticultural science will be used to insure their success in their new quarters. As they were prepared long since by cutting trenches round them and filling the trenches with leaf-mould, to induce a fibrous root-growth, there is now no doubt that the new garden will possess many substantial elements from the first, and by the rapidity with which it will assume the aspect of an established place, show that horticulture has made some advances since the days of Brown and Langley, who would stare not a little if they were now suddenly confronted with one of the transplanting machines bearing its branchy burden from Chiswick to Kensington Gore. Amongst the subjects lately submitted to the Floral and Fruit Committees were the following:—Fruit of Dolichos sinensis, the bean cultivated by the Chinese under the name Tow-cock, the pods measured about two feet in length, they grow in pairs; Gymnogramma Wetenhalliana, a new and beautiful seedling fern; specimens of double Zinnias, raised from seed received from the East Indies, shown by Messrs. Carter, and awarded first-class certificate; dahlia Beauty of Hilperton, a fine, bold, purple flower, from Mr. Edwards, of Hilperton; dahlia Juno, rosy lilac, from Mr. Rawlins, commended; dahlia Princess of Prussia, yellow, from Mr. Turner, commended; dahlia George Parker, white, tipped lilac, from the same, commended; tropæolum Garibaldi, rich orange crimson, from Messrs. Garraway, of Bristol, commended; gladiolus Herr Rosenberg and gladiolus Mrs. Blount, from Mr. Standish, commended; gladiolus Rev. J. Dix, crimson-scarlet, a charming flower, from Mr. Standish, special certificate.

Colchester Horticultural.—The last exhibition of fruits and flowers in connection with this society took place on the 12th of September, in the grounds belonging to Mrs. George Round, East Hill, and in the occupation of Mr. W. Waylen. The date originally fixed for the show was August 29th, but the backwardness of the season was such that it was found absolutely necessary to postpone it, there being at that time scarcely a dahlia bloom which could be cut for exhibition. This alteration doubtless interfered with the arrangements of many, but the result of it was the most brilliant display of dahlias this society has ever witnessed, culled from the grounds of some of the best growers in England, including Mr. Turner, of Slough, and Mr. Barnes, of Stowmarket. As a whole the exhibition was a very superior one, both with respect to fruits, flowers, and vegetables. In the class of stove or greenhouse plants, Mr. Catchpool, of Highfields, Lexden Road, carried off the first prize for the following:—Rondeletia speciosa, Dipladenia crassinoda, Lilium rubrum, Allamanda aubretia, Heterocentrum roseum, and an orchid; the second was awarded to Mr. Hotson, gardener to Mrs. Round. In the collections of plants with variegated foliage, the competitors were—Mr. Hedge, of Ipswich; Mr. Stoddart, gardener to J. Gurdon Rebow, Esq., Wyvenhoe Park; and Mr. T. Catchpool, 12 dissimilar plants in each collection. First prize, Mr. Hedge; 2nd, Mr. Stoddart. In new plants, Mr. Hedge, of Ipswich, was first with Caladium argyrites; Mr. Catchpool second with Lapageria rosea; Mr. Stoddart third with Caladium Newmanii. In this class Mr. B. R. Cant exhibited a new fuchsia called Big Ben, a good flower, and must became a favourite. Single specimen plants—1st, Mr. Rebow's gardener, for Selaginella lævigata; 2nd, Mr. Hedge, for Lilium lancifolium speciosum; 3rd, Mr. Hotson, for Vinca rosea. There was an unusually fine collection of fuchsias, the principal exhibitors being

Mr. Hedge, Reed Hall, and Mr. Catchpool. The lovers of ferns had ample opportunity of gratifying their taste in that department, the greater portion of one of the small tents being occupied by the collection of British and foreign ferns shown by Mr. Catchpool, who carried off the first prize, and that of Mr. Stoddart, who received the second. These collections numbered about 130 pots. Some good verbenas were shown by the Rev. E. Hall, of Myland; Mr. Hedge, of Reed Hall; and Mr. B. R. Cant. There were good cockscombs, achimenes, and herbaceous cut flowers. The exhibition of asters, both in the French and German quilled varieties, was excellent, showing the great improvement which has taken place in this description of flower within a few years. Messrs. Chater and Son, of Braintree, sent several spikes and stands of hollyhocks, which, for compactness and beauty of form, surpassed anything of the kind previously seen in Colchester. In the class of cut roses, Mr. B. R. Cant had an attractive stand of twelve, and J. S. Barnes, Esq., a collection of six. The judges disqualified all the stands of twelve each, because they were not shown with the foliage as cut, loose leaves having been inserted to set the flowers off to greater advantage. The judges held that it was a violation of the rules, and their disqualification of all the stands will lead, no doubt, to an entire change in the mode of showing cut roses. The great attraction was the collection of dahlias. Mr. Turner took the silver cup for a stand of 24 magnificent flowers. Mr. Barnes, of Stowmarket, and several growers of local celebrity, were also competitors, but none of them had a chance in the race with the famous grower of Slough. The exhibition of fruit was very large and superior. The first prize for a pine was given to Mr. Catchpool for a splendid fruit; in the class for grapes there was good competition, the prize was given to Mr. Hotson. For white grapes the prize was awarded to the Rev. W. H. Herring. In the cottagers' department there was a very excellent show both of vegetables, fruits, and flowers, but we missed the abundant supplies of honey which we have seen on former occasions. It is computed there were nearly 2000 persons present.

Ashton-under-Lyne Celery Show, *Sept.* 20.—A celery show took place at the house of Mr. Samuel Potts, Oddfellows' Arms, when no less than thirty prizes were contended for. The show was extremely well attended, and prizes were awarded as follows:—1st, to Mr. William Marland, whose stick weighed 6lb. ½oz.; 2nd, Henry Cropper, 5lb. 14oz.; 3rd, John Silcock, 5lb. 10oz.; 4th, William Andrew, 5lb. 9½oz.; 5th, Samuel Potts, 5lb. 8½oz.; 6th, Edward Knott, 5lb. 8oz.; 7th, John Walker, 5lb. 4oz. The other growers followed in rotation, the lowest stick weighing 2lb. 7oz. Amongst the number were two seeders which weighed 5lb. 2½oz. and 5lb. 1½oz. There was a cause of great attraction in the shape of a magnificent mansion built of flowers, which must have cost considerable time and labour to Mr. S. Potts, jun., and others. The show-room was embellished by a display of fruit, etc., and gave the utmost satisfaction.

Gardeners' Anniversary.—On Saturday, September 18, the members of the Earl Grey Lodge, 105 of the United Free Gardeners, held their anniversary at the house of Mr. John Cook Hallbottom, Gate Inn, Newton, Lancaster. Upwards of 80 of the members, including their wives and sweethearts, partook of an excellent dinner. After the cloth had been removed, Mr. Joseph Taylor was called to the chair, and Mr. Joshua Williamson to the vice-chair. The Chairman briefly stated that the objects for which friendly societies were established were to relieve the sick and distressed, to provide decent interment for deceased members, and in connection with this society there was a benevolent fund, to which every member paid a small subscription for the purpose of supporting any member who may be thrown out of employment. The evening was spent in singing, reciting, etc. The usual votes of thanks were given and responded to, after which the meeting broke up.

Shepton Mallet, *Sept.* 4.—This was the first fête of the Shepton Mallet

and East Somerset Horticultural Society, and it proved, in every sense of the word, "a decided success." The weather, the attendance, the show, and, in fact, everything combined to make it Shepton's red-letter day, and future great annual holiday. The town was completely embowered in leafy decorations from end to end, while scores of flags flaunted gaily from the windows, and, to give additional *eclat* to the scene, there were two or three companies of volunteers assembled, who, in the morning, went through several evolutions very creditably, under the command of Captain Ernst, of the Shepton Mallet, or 15th Somerset, and were afterwards treated to a public dinner, which included everything that could be desired, and was paid for by the principal residents and tradesmen in the town and neighbourhood. Bells were merrily ringing the whole day, and no less than *five* bands were stationed in different parts of the place. The show of fruits, flowers, and vegetables (in three large tents), was a very good one indeed—in the opinion of competent judges even excelling the exhibition at Trowbridge, and in another year the "Shepton Flower Show" promises to be no mean rival of the Bath and Bristol fêtes. Between 5000 and 6000 persons visited the park during the day, and we believe that everyone was fully satisfied with the proceedings.

Daventry Floral and Horticultural Society, *Sept.* 18.—The twenty-sixth exhibition of this society was held in the park adjoining the Parsonage-house. The flowers, fruits, and vegetables, were arranged in the society's marquees. Owing to the unfavourable state of the weather, a very limited number of flowers was brought. The vegetables were very fine. The weather, always adverse to this society, prevented the arrival of much company. The Leamington Sax-horn Band was in attendance, and acquitted themselves, as usual, quite satisfactorily.

Chelmsford Horticultural Fete.—The first exhibition of the Chelmsford and Essex Horticultural Society for this season was held on July 3, in the pleasant grounds of R. Bartlett, Esq., at Rainsford Lodge. In the division of private growers the palm was awarded to Mr. James Hines, gardener to Miss Willes, of Great Baddow. Messrs. Saltmarsh were the successful competitors for the society's prizes in the rose department. The silver cup, value five guineas, for the best 24 roses, was won by J. T. Hedge, Esq., of Colchester, with a choice selection. That gentleman also took the prize for private growers, the sweepstakes for the best 12 dissimilar blooms being awarded to Messrs. Saltmarsh. Mr. John Harris, of Broomfield, and Mr. Stacey, of Dunmow, also distinguished themselves in the rose department. The fuchsia was represented by a very excellent collection. The first prize for private growers was won by Thomas Stanton, gardener to J. S. Crabb, Esq., Great Baddow. Of gloxinias, achimenes, verbenas, and petunias there was also a goodly assortment. The prizes for the best collection of hardy herbaceous cut flowers, which stood out in wild contrast with their more refined companions, were awarded to Messrs. Saltmarsh and J. T. Hedge, Esq. A fine pine-apple, exhibited by Mr. Godfrey, gardener to Lord Rayleigh, received the prize. Mr. Godfrey and Mr. Cunison, gardener to J. A. Hardcastle, Esq., M.P., each showed a fine melon, that of the latter being adjudged the better. Some splendid black grapes, shown by Mr. Payne, gardener to J. Beadel, Esq., carried off the prize, that for white grapes being awarded to Mr. Moffatt. For early potatoes, Mr. Cunison and Mr. Perry, gardener to T. W. Bramston, Esq., M.P., were the successful competitors. Mr. Cunison also succeeded with some splendid cauliflowers. The best and indeed a very fine brace of cucumbers was grown by Mrs. Barnes, Springfield. The amount received at the gates, independently of the large number of admissions by subscribers' tickets, was £21 18*s.* 6*d.*

Barnsley Floral and Cottage Gardeners' Societies.—The annual exhibition of these societies took place on the 4th of September, when a grand display of fruits, vegetables, and flowers were shown in competition for the various prizes. The exhibition was held in the society's marquee in the field

at the top of Old Mill Lane. The two societies held their shows in one marquee by mutual agreement, as in former years. The weather throughout the day proved remarkably fine—in fact, all that could be desired for so interesting an occasion. At two o'clock, the time for opening the exhibition to the public, the committee had the satisfaction of presenting one of the best arranged shows that has taken place in Barnsley since the formation of the society. There was also a more numerous attendance of the higher class of visitors, and the receipts at the gates exceeded that of previous years. The members of the Dodworth Brass Band were in attendance, and played some of their best music. Of the articles entered for competition in the fruit department of this year's show, apples appeared most deficient, though the specimens shown were considered fair for the season. In the floral department fuchsias formed a prominent feature, but the varieties were not numerous. The ferns and variegated leaved plants attracted much attention, as did also the collection of stove climbers. There was a limited show of geraniums, liliums, and calceolarias, owing to the want of sun during blooming. A very choice selection of dahlias were exhibited, the principal prizes therein being as usual carried off by Mr. Edwards, of York. A design of flowers, shown by Mr. Hague, of Longley Spring, was much admired, and to which the judges awarded an extra prize of 10*s*. The show of vegetables was considered very excellent, and quite equal to former years. The cottage gardeners' exhibition, which was held in the lower part of the marquee, was a great improvement upon last year. There was a much larger collection of plants and flowers, some of them being equal to the amateur and gentlemen's department. In vegetables there was a choice and large display. The design of cut flowers in the cottagers' department generally attracts considerable attention, and this year the designs were so equal in merit, that an extra prize was awarded to J. Irwing, the first prize being taken by William Shaw.

Wellingborough, *Sept.* 11.—The floral fête took place in the grounds of Mrs. Ridgway, kindly lent for the occasion. The weather was propitious, and the town full of the signs of rejoicing. Flags, banners, triumphal arches, festoons of flowers, and bands of music, made the town wear the brightest holiday aspect, and there were more than twelve thousand persons in the park to witness the exhibitions, which presented a most beautiful appearance. The show of fruits, vegetables, and flowers was arranged in three large tents at a little distance from each other, with every facility for the easy ingress and egress of visitors. All the respective classes were well filled, and the exhibitors divided the prizes amongst them with satisfaction and honour. The entire prize-list has been published in the *Northampton Express*, to that we must refer any of our readers who wish for full particulars, as it would occupy far more space than we can afford even to analyze it.

Northamptonshire Agricultural Society and Flower Show, *Sept.* 21.—The good people of Brachley were determined to make the most of this exhibition, being the first time it has been held at their town, as everywhere they displayed flags, evergreens, and devices, arching across the road; each house seemed to have something to show, and when it is stated that the town is one street, about a mile in length, some idea of the effect may be imagined. The managers of the Floral Show seemed very particular in instructing the exhibitors where to take their plants, but the mud and crowd rendered this a very difficult operation, and in consequence some of the productions must have suffered considerably. We mention this merely as a hint, that they may avoid in future putting exhibitors to unnecessary inconvenience. The exhibition was held in a field adjoining the Cattle Show Yard, and consisted of nine booths. In the first one on the right hand, were the "open to all" classes, and of course contained the most choice plants. Some of the fuchsias were splendid; among them was Sir Colin Campbell, which proved a remarkably showy plant for exhibition. In this booth were also the plants with ornamental foliage, geraniums and balsams; these were

magnificent, the branches being covered with flowers; the decorative effect of their tints was very fine, the plants at the sides quite hiding the canvas. We must also mention the roses, dahlias, and some fine gladioli; also the bouquets, arranged in circular stands. The next tent was for under-gardeners and labourers in gentlemen's gardens, and they certainly made a capital show of vegetables; the potatoes, carrots, and celery, very fine. There were a few fuchsias very good, and the cut flowers, arranged in form of stars, were very pretty. The tent for amateurs came next. There were one or two features in this exhibition that are worth recording. No plants were required for decorative purposes; the judges arranged the plants in an artistic manner and, at the same time, so that the judges could fairly view the specimens. There were also many flowers rarely exhibited for competition, such as stocks, zinnias, marigolds. The morning looked very gloomy; but shortly after ten o'clock the sun shone forth and remained throughout the day. We must award great credit to Mr. Russell, the Hon. Secretary, and Mr. Booth, gardener to the Earl of Pomfret, for the excellent manner in which they managed the duties intrusted to them. £160 was taken at the doors.

WEATHER PROGNOSTICATIONS.

THOUGH of course it is utterly beyond the power of man to foretell, any long time before, the character of the weather, yet Nature frequently gives us indications of coming changes, shortly before they occur. The following are some of the most reliable:—

FROM THE BAROMETER.—1. As a general rule, when the mercury rises, fair weather may be expected; when it falls, foul.

2. If, when it rises, the temperature falls, and the air becomes drier, then N.W., N., or N.E. wind—or less wind—may be expected.

3. If, when it falls, the temperature rises, and the air becomes more charged with moisture, then wind, rain (or snow) may be expected from the S.E., S., or S.W.

4. Exceptions to these rules occur, when a N.E. wind, with rain (or snow) is impending, previous to which the mercury often rises (but only on account of the *direction* of the coming wind), and thus deceives those who look for fair weather.

5. When the barometer standing at about, say, 29½ inches, a rise foretells less wind, or a change towards the N., or less wet.

6. The barometer standing at about, say, 29 inches, the first rising usually precedes high winds from N.W., N., or N.E., after which, if it still rises, and the temperature falls, improved weather may be looked for. But if the temperature remains high, probably the wind will back, or shift against the Sun's course, and more S. or S.W. wind follow.

7. The most violent gales—especially from the N.—happen after the barometer rises from a very low point, say 28½ inches.

8. A change of weather, suddenly following a change of the barometer, may be expected to last only a short time.

9. A rapid rise of the barometer, indicates unsettled weather; as also does alternate rising and falling. But a gradual rise, with dryness, shows fair weather.

10. A rapid fall indicates heavy rains, and general stormy weather.

11. If fair weather continue for several days, during which the barometer continuously falls, a long succession of foul weather may be expected.

12. And conversely.

13. The greatest depressions of the barometer are with gales from the S.E., S., or S.W.; the greatest elevation with winds from the N.W., N., or N.E.

14. Although the barometer generally falls with a S. and rises with a N. wind, yet the contrary *sometimes* occurs; in which case the S. wind is dry, and the weather fine; and the N. wet, and the weather violent.

15. When the barometer sinks considerably, high wind, rain or snow will follow; the wind will be from the N., if the temperature is, for the season, low; from the S. if high.

16. Sudden falls of the barometer, with a W. wind, are sometimes followed by violent storms from the N.W. or N.

17. If a gale sets in from the E. or S.E., and the wind veers by the S., the barometer will continue falling until the wind becomes S.W., when a comparative

lull may occur, after which the gale will be reversed, and the shifting of the wind towards the N.W. will be indicated by a fall of the temperature, as well as a rise of the barometer.

18. The wind usually veers with the Sun (right-handed in N. latitudes, left-handed in S. latitudes); when it does not do so, or backs, more wind, or bad weather, may be expected.

19. The barometer sometimes begins to rise before the conclusion of a gale; sometimes even at its commencement, as the equilibrium of the atmosphere begins to be restored.

20. Though the barometer falls most previous to high winds, yet heavy rains often cause a great depression.

21. The barometer falls, *sometimes*, on the approach of thunder and lightning, or when the atmosphere is highly charged with electricity.

22. Instances of fine weather, notwithstanding the barometer being low, occur from time to time, but they are always preludes to a duration of wind or rain, *or both.*

The following aphorism should always be borne in mind, when the barometer is consulted—

> Long foretold, long last;
> Short notice, soon past.

From the Sun.—1. If the Sun sets in a thick cloud, and the E. horizon is red, or rises red, with blackish beams, in a haze, then rain may be expected.

2. If it sets in a white haze, so that its disc can scarcely be discerned, or rises with a red N. sky, then expect wind.

3. If it sets in a red sky, or rises with an iris which gradually disappears, as the Sun ascends, the clouds at the same time going to the W., fair weather is indicated.

From the Moon.—1. If pale and the cusps blunt, rain is indicated.

2. If the Moon is not visible for three or four days after change, and wind S., then rain may be expected.

3. If distorted, or mock moons are seen, a storm may be expected.

4. A lunar halo betokens unsettled weather. If the halo is not equally distinct all round, the storm generally comes from the point opposite the indistinct part of the ring.

5. If the disc is much enlarged, or of a reddish tinge, or the cusps sharp and blackish, then expect wind.

6. If the disc is clear and well defined, fair weather is indicated.

7. If the cusps are sharp upon the fourth day after conjunction, it will be fair till the succeeding opposition.

From the Stars.—1. If clear and twinkling brightly, fine weather in summer, and frost in winter, is foretold.

2. If dull and large, and scintillation imperceptible, rain may be expected.

3. When seen, apparently in motion, wind is foretold.

From the Twilight.—1. When the Sun has gone down, and the W. sky is of a purplish hue, with a haziness in the horizon, the following day will be fine. But should the predominating colour be pale yellow extending high towards the zenith, there will be a change of weather.

2. If at sunset the E. sky is very red or purple, or has a copper hue, rain may be expected.

3. If the twilight is unusually protracted, though the atmosphere seems very clear, the higher regions are charged with moisture which will soon be precipitated, in the form of rain.

From the Wind.—1. If it howls, or veers about much, rain will follow.

2. If it rains before sunrise, it may go off by the afternoon, but if it comes on after the sun has risen, it is likely to continue.

3. A heavy shower, after the commencement of a gale of wind, indicates an approaching calm.

From Mists.—1. If seen, towards dusk, rising from a stream or meadow, the next day will be warm.

2. Frequent mists foretell rain.

3. If a mist appear before sunrise, about the time of the Moon's opposition, fair weather, for some days, may be expected.

4. Mists gathering round mountain-tops, indicate the approach of rain.

5. Mists in autumn are often followed by wet weather; in spring, seldom.

From the Clouds.—1. If they move rapidly, appearing red in the early part of the day, or of a leaden hue, in the N.W., then rain is indicated.

2. If at sunset, they begin to disappear, and have their edges tinged with yellow, the weather is fair and settled.

3. If yellowish, and with a high wind, they are moving slowly, and soon darken the sky, then hail in summer, snow in winter, may be looked for.

From the Rainbow.—1. If the predominating hue is green, it denotes continued rain; if red, rain and wind.

2. A rainbow in the morning is the shepherd's warning: a rainbow at night, the shepherd's delight.

From the Aurora Borealis.—This meteor is frequently the forerunner of much rain and heavy gales of wind from the S. or S.W.

Miscellaneous.—1. When the outlines of distant hills are very clearly seen, it is a sure sign of rain.

2. When snow descends in large flakes with a S. wind, there will soon be a thaw.

3. When the air is very sultry, thunder is indicated.

The foregoing remarks have been collected from various sources, and are here printed, in a condensed form, for verification, and, if need be, revision.

Geo. F. Chambers.

Eastbourne.

STANHOPEA SPECIES AND THEIR CULTURE.

This is one of the most natural and interesting of orchideous genera, and singular in the formation of its flowers. I say natural, because the greater portion of the genera of orchidea are a mass of confusion, as they are at present constituted. Unless botanists pay more attention to the outward forms of orchideous plants, and less to the minute parts of their flowers, they will never be able to form anything like proper genera. Nature, I am convinced, has properly defined every genus by its outward form. All this genus has one leaf to each pseudo bulb, and the flowers proceed out from the base of that bulb. With regard to their culture, persons who wish to grow fine specimens ought to put them in large baskets, or pots, so that they may not require to be shifted for several years; as then the plants grow much finer and flower better, for they are very adverse to being shifted. In the growing of them in pots, it is necessary that they should be elevated about a foot above the rim of the pot. In building up the mound, it should be kept as nearly the width of the pot as possible. The pot should be filled up with large potsherds to within about two inches of the top; over this should be laid the heathy portion of the peat. The peat in which these are grown should be as fibrous as possible; it may be either cut or torn into small portions for building the mound, and it may be fastened on by a few pegs. After the mound is formed, the plant should be planted in the centre, and then it should be placed in the house for a few days without any water. In the growing of them in baskets, they do not require to be elevated, as the baskets are open at the bottom and sides. The baskets should be formed of oak billets; each about one inch in diameter. The depth of the basket should be about three inches, and each bar should be placed about two inches apart. The proper time to remove and repot them should be the growing season, which is towards the latter end of July or the beginning of August; for if they are potted in the resting season, and have no water, they are apt to shrivel; and if water is given, they will rot. As soon as they have done flowering, they commence growing; and whenever they show signs of growth, should have heat and plenty of moisture, until they have completed their pseudo bulbs. After this, they should be allowed to go to rest. I mean by rest that they should be taken out of the moist-house, and put in the dry one till they show flower. When they do this, they should be placed in the moist-house, but should have no water, or at least but a small portion, till such time as they begin to grow. By this mode of treatment they will grow much finer than if they were constantly watered. All the plants belonging to this genera push their flowers downwards; hence the necessity of having the plants elevated, or put in baskets, so that the flowers get through and show well. The following are some of the principal species:—

Stanhopea grandiflora.—This is the first species that was introduced into this country. It is a native of the trees in Brazil; and as it requires less rest than any of the other species, as it grows and flowers at the same time, it may always be kept in the growing-house; it may be grown in either pots or baskets; the flowers of it are white, and have a very peculiar scent, not unlike that of rhubarb.

Stanhopea eburnea is only a variety of grandiflora, and not a very marked one. This, like many other of the orchidea, rises to the rank of a species one day, is brought down to a humble variety the next, till at last it turns out to be nothing more than grandiflora.

Stanhopea venusta.—This is a beautiful species, and a native of America. The flowers are somewhat in the form of

grandiflora, only they are yellow; and it has a strong smell of the rhubarb that is sold in the chemists' shops. It is a very distinct species, and requires to have a good rest after it has done growing.

Stanhopea quadricornis.—A well-marked species, having four horns on the lip; is not so rich in colour as some of the others, but it has a more delicate scent than many of them. It requires to be grown in a pot or basket. This species flowers earlier than either of the former, and, of course, grows sooner.

Stanhopea saccata.—A most interesting species; a native of Mexico, having a large bag at the base of the lip; hence the name. It has an orange lip, with straw-coloured vessels, and petals beautifully covered with dark spots; this requires a pot or basket. This is also an earlier flowerer, blowing in May and June, though sometimes later.

Stanhopea Wardii.—A very handsome species. The flowers are of a pale yellow, beautifully spotted, well worthy the cultivator's attention, as indeed all the species are; flowers in June and July, and very seldom begins to grow before August; the number of flowers on a spike are from five to twelve. This requires either a pot or basket.

Stanhopea tigrina (the tiger marked).—This is really the most splendid and singularly formed species of all the genus; the lip is dark and of a very fleshy texture; the vessels and petals are of a pale colour, with large dark stripes; it flowers in June and July, and begins to grow in August; has from two to three flowers on a spike. It may be considered the very finest of the genus; it requires a pot or a basket.

Stanhopea Martiana.—This is a species very nearly related to tigrina. I could see nothing in it to distinguish it from the preceding species.

Stanhopea oculata.—A pleasing and very interesting species. The lower portion of the lip has a yellow cast, and has a dark spot resembling an eye; hence the name. The upper portion is like white ivory, and beautifully spotted with purple; the vessels and petals are of a pale straw colour, finely spotted with dark purple.

Stanhopea Devoniensis.—This is a very splendid species, somewhat like tigrina, but not so large, and has a very differently formed lip, and the vessels and petals of a much darker colour. It comes into flower in June and July; it requires either a basket or pot.

Stanhopea insignis.—This is another beautiful species. The vessels and petals of this species are pale yellow with purple spots; the lip of it is very curiously formed, and of a thick and fleshy nature. It is impossible for me to compare the flowers of these plants to anything I know, as they have a form peculiar to themselves, widely different from that of all other known plants.

I do not consider the root of these plants the principal recipients of food. I think the leaves and pseudo bulbs the proper absorbents of moisture, and that the roots are merely necessary to attach the plants to the places where they are destined to grow. I have seen many of this tribe of plants grow without roots, when these have been cut off or have died, though they have not grown or flowered so well as those that had roots; but I do not believe that this was because the plants could not absorb sufficient moisture, but because they could not firmly attach themselves to the places where they were growing. The great point in the growing of these plants is to get them firmly rooted to the place where they are to grow; hence it is absolutely necessary that the peat in which they are grown should be of the most fibrous nature, so that when water is given, it may pass off quickly; for if any water lodges about the roots, they will rot. My opinion being that the leaves and pseudo bulbs are the principal absorbents, I think it very wrong to give the house any great portion of air, because it must dry up the food of the plants, and so tend to render them weak and unhealthy. The air in the house should be kept up to near the point of saturation. At the time of growing, the plants cannot by any means develop their leaves, and of course their pseudo bulbs must be small; the flowers will be small, and few of them on a spike; and they will not have that fine proportion which they have when they are grown in a strong moist heat. It is the opinion of some that much air is necessary in the growing season; but this I deny, and those who attempt it will certainly fail in growing fine plants, or producing good flowers.

P. N. Don.

Minimum Temperatures. — There have been four frosts up to the present time in the neighbourhood of London. The following were the readings of the minimum thermometer on the dates named:—Oct. 3, 30°; 9th, 30°; 11th, 25°; 14th, 29°. That of the 11th came with a dry air and did no mischief.

CHAPTER XVII.—CULTURE OF CELERY.

Celery belongs to the artistic department of profitable gardening. Like asparagus, melons, cucumbers, and tomatoes, it has a high place in exhibition schedules, and there are not a few celery fanciers in country places where artizans enter into friendly rivalry in the production of enormous samples. As is the case with rhubarb, beet, melons, and a few other similar subjects, the largest celery is not always the most acceptable at table, but being a gross feeder, it is no difficult matter to grow it to almost any dimensions, provided the feeding materials are at hand. The majority of our readers will prefer to grow useful crops, and for their benefit our notes on celery culture will have reference to the dinner-table rather than the exhibition, but we shall add a few words of advice to those who grow for competition.

Celery (*Apium graveolens*) belongs to a class of plants renowned for their poisonous properties. It is a native of this country, and its natural habitat is at the sides of brooks and ditches, and there it is neither a wholesome nor an elegant plant. It owes its reputation wholly to its improvement by cultivation. There are many varieties, but more names in seedsmen's lists than distinct kinds, for some kinds have half a dozen names, and a few enjoy a local celebrity, not so much because they are better than the rest, but because, through being exhibited in fine condition by skilful growers, fame has followed them, and insisted on their names being printed in capital letters. We have grown some of the most noted sorts side by side with varieties whose names are almost forgotten, and found the old to be as good as the new, and in some instances the new and the old were every whit identical. Still, there is something in names, even in the choice of celery, and the best whites are Cole's Crystal, Incomparable Dwarf, and Seymour's Champion. The best reds are Cole's superb, Ivery's Nonsuch, and Manchester large. There are others nearly as good, and if the seed be well saved from a really fine crop, you cannot fail in getting a good return from it, if the culture be liberal, no matter scarcely what sort you have. For table use the whites are, of course, the best; they are more elegant, and more delicately flavoured. The reds are for the kitchen, and amazing good in soups. Nevertheless, red celery, if a moderate size, is acceptable on the table when white is not to be got; and white celery will not spoil ox-tail or leg of beef, so as to colours you need not be fastidious, if one or two rows only are required, and you do not keep a fashionable table. But as there is no reason why the peasant should not indulge in celery equal to that served up to the prince, choose two of the best sorts, white and red, and grow according to your wants a supply of each.

Celery is a gross breeder, and from the first should be grown in a rich soil. Get the ground ready for it as early as convenient; if during winter it can be ridged up to sweeten, all the better, but as you cannot plant out till April or May, it may very well take the place where cabbages have stood the winter, the ground to be got ready as fast as it is cleared. Instead of waiting to turn over the whole plot, make a piece ready for one or two rows, get it ridged up, and let it remain exposed to the weather till within a fortnight of the first planting, then turn in a liberal dressing of manure, and break the surface fine, and let it remain to settle, ready for planting, and the plants will make a better start than if the ground is only got ready at the last moment. Meanwhile get the rest of the piece ready, and plant in the same order, so as to have a succession, for this is a crop that should never come in a glut, but be in a condition to supply a few heads any day from the 1st of August until the crop is finished; and it need not be finished in haste because of frost, as means can easily be devised for protecting it, and the best can be stored in dry earth in a shed or outhouse, and covered with a little dry straw until wanted.

The first sowing of celery should be made in the south of England on

the 1st of February; about London and the midland counties on the 15th, and in the north at the end of the month. The soil for the seeds should be fine and rich, say one shovelful of rotten dung run through a riddle, one shovelful of rotted turves or turfy loam, chopped as small as hazel-nuts, half a spade of charred sticks run through a half-inch riddle, and a little gritty stuff to keep it open and porous. Fill a few pans with this mixture, press it firm, sow on it thinly, and cover with a thin sprinkling of fine dusty stuff, and put the pan into a moderate stove, on the greenhouse flue, or wherever it can have a steady bottom-heat, and the plants will soon make their appearance. I always manage to have the soil moist enough at sowing, not to require watering till the seeds are up; but if water must be given after sowing, take care that the seeds are not washed out in the operation. I never water seed-pans on the surface, but lower them into a vessel in just enough depth of water to reach to the rim without flowing over the pan. The earth soon imbibes the water, and they are lifted out without the disturbance of a single crumb of the surface. As soon as the plants appear, get ready a gentle hot-bed for the first pricking-out, turn the dung well, so as to have the heat sweet, and not too fierce; put a few tiles or slates over the dung to prevent the plants rooting down into it, and cover them with six inches of fine rich stuff, similar to that used for the seed-pans, but not sifted, and merely broken fine and dressed up neatly. Handle them tenderly in pricking out, plant them six inches apart, water, and shut close. Give air as often as possible, but be cautious not to chill them. If the heat soon goes down, no matter, the frame will be in a sunny position, and the plants near the glass, and they are sure to come on with proper watering, ventilating, and shutting up early before the sun has gone off the frames.

A fortnight after the first batch comes up, sow again, and it may be as well to say, that one six-inch pan will suffice for each of these two sowings, even in the largest private establishment, because the main sowing, to be made about the 10th of March, is that from which the principal crop is to be derived, and it may be as large or as small as the wants of the place are. This mid-March sowing is the only one that need be made by possessors of small gardens, who are not particular about early supplies; and the advantage of deferring to this season is, that bottom-heat is by no means essential to get it forward quickly. The sowing may be made in pans, and the pans put into a cucumber or melon frame, or on a top, sunny shelf in a warm greenhouse, the pans covered with squares of glass; or if no such aids are available, sow on the warmest border you have, and either cover with hand-lights, or put a small frame over the seed-bed. I have some little fancy one-light boxes, only four feet long by three feet wide, very neatly made, and they are wonderfully useful in turning sun-heat to account in the spring of the year, under a warm, boarded fence in a south aspect. One such frame to cover a seed-bed in March, would get up celery, tomatoes, cauliflower, French beans, and tender annuals enough for most families, and most gardens of middle class pretensions; and a patch of celery so situated, will be strong enough to plant out in a month from the planting, and give heads fit for use very soon after the first February sowing, only they will not be so large. The ground should not be dug, but trod quite hard, and on the hard surface lay down three inches of well-rotted dung, and on that, six inches of a fine rich mixture, as directed, for the plants pricked out from the first sowing. Sow them and cover lightly. When the plants are up, give air with caution, and keep them always moderately moist. Being raised above the general surface, the seed-bed will not be likely to hold too much wet, which would cause the seedlings to damp off; but as celery loves moisture, it should never have a check by any approach to drought, but be kept well aired and frequently watered. The pricking out from this seed-bed may be done without any further help from glass, but it must be in a warm position, best on a slope under a wall, or fence facing the south, and on a hard

bed with a bottom of dung, and six inches of good stuff on the top of it, The plants so managed will lift at last with nice, bushy, fibrous roots, and when got into trenches will begin to grow at once; but if put into trenches direct from the seed-bed, will make no growth at all for a fortnight, so there will be nothing gained by skimping the trouble in the first instance. Many an exhibitor of celery has no better contrivance for a seed-bed than a few boards extemporized into a frame by means of posts driven in at the corners, the boards put against the posts, and held with a few nails, or by four more posts outside. A wheelbarrowful of hot dung and a foot depth of rich soil constitute the bed, which holds its heat long enough to start the seed into vitality, and a few laths and mats, or an old door or shutter, is the covering till the plants are up. The best celery I ever saw was grown by a man down Stepney way, five and twenty years ago, on a bed of leaves saved over winter out of the wet, and the bottom knocked out of an egg-chest for a frame, the bottom being then used to lay over it to keep in the little heat the leaves produced by fermenting.

The planting out and management in trenches may be deferred till next month, without inconvenience to any of our readers, but one more hint may be offered to those who have a hot, hungry soil; and who, for that reason, deny themselves all hope of celery. In such cases, whatever can be scraped together from the muck-pit and the stable must be used to enrich the soil, and if the ground is dry and liable to be burnt during summer, make a four-feet bed below the level, say a foot at least, and enrich the bed as far as means allow, and grow the celery in rows in the same way as cabbages, six inches apart every way will do. Give as much water as will keep the bed always moist, and once a-week a dose of liquid manure, and do not earth them up at all. You will thus get a supply for soups, and be well repaid for the little trouble occasioned. In very many gardens, on hot, chalky, and sandy soils, the growth of celery is never attempted. It certainly will not grow fine without good loam and plenty of manure, but a small supply is better than none, and the flavour of the short red stumps that are obtainable under the worst of circumstances, is not much inferior, for culinary purposes, to that grown under every possible advantage.

BEDS OF ROSES.

On this 27th of October, when the Floral World ought to be printed and ready for its million readers, I am enjoying a rose show of my own, and, for the thousandth time, pronouncing General Jacqueminot a wonder of wonders, and the best garden rose ever produced or dreamt of. Yet gardeners tell me it does better here than anywhere within their several experiences. I can only say it does all I wish it, and more than I have any right to expect, for I don't treat it half so liberally as some people. Round my two semicircles it stands at regular distances, loaded with blossoms on every shoot, and they are better now than in June, because they do not expand quite so much, for when the General is full open his yellow eye betrays him as not so double a flower as he pretended to be. I have compared this rose carefully with all the rest of the same class, and there is not one to equal it, all things considered, though plenty that beat in this or that particular. Ravel and Evique de Nimes are marvellously coloured, but they don't combine the profuse incessant blooming habit of the General, with the glories of a good show-flower; and for garden decoration, properties are not so important as colour, and plenty of it. But when three-parts out, nicely cupped, and in such genial gentle sunshine as we have been blessed with this October, the General will proclaim himself the most useful hybrid perpetual rose we have—hybrid, certainly, and very perpetual, and the last blooms almost as good as the first. Now here is a fact of importance, worked plants of this rose do not bloom near so profusely as those on their own roots, and two small top-dressings with manure do it, and all other free-blooming roses, more good than one heavy one, which may cause rank growth and run them out of their strength before the season is half gone.

I top-dress in February, before pruning. After pruning, I sprinkle a little soil over the dung, and touch over the surface with a hoe—I hate rakes. Then, when the first bloom is over, I cut away the small bloom shoots to good eyes, and top-dress again, and I care not how fat the stuff is, and always prefer pig-dung if I can get it. On such a deep, moist, substantial loam as mine watering is scarcely needed with this sort of management, for when the surface looks dry and dusty you have only to stir it a little and it is as moist under the dung as need be. A gentle hoeing at such times, and then, the same evening, a smart shower from an engine, to drive the fly into oblivion, and where is the rose that will refuse to prosper. Coming back to autumn roses, my best just now, after the General, is Jules Margottin, all the plants of which, both worked and on their own roots, are smothered with bright cherry-coloured blossoms, but they are nothing like the first blooms, which last June were wonderful. Here, then, is a difference between these two roses of no small import. But there is another difference, and that is, that since the first bloom Jules has scarcely bloomed at all till now, no, nor did he ever do so from the day he was sent into the world from his paternal soil in France. You get a bloom here and there all the summer long, but no such general outburst as to give occasion for rejoicing. But now he looks delightful, and his colour is so clear and bright that the deeper glow of the General does not eclipse him, even when they stand side by side. Now this difference is unfortunate, because if Jules Margottin would flower like a China, as the General does, it would make the best possible centre for a bed with the General to fill up to the margin. It just overtops the General, has similarly fine foliage, and the two would give two shades of colour distinct and yet harmonious. The next best rose as to bloom just now, is our old friend Géant des Batailles. The colour now is most charming, and though it never blooms quite so profusely and continuously as the General, it is rarely without a good half dozen, if on its own roots, but worked on the briar it blooms more by efforts and finishes off earlier in the season. If I go round I find among the Chinas Mrs. Bosanquet looking dull and inclined to let her flowers rot in the bud; Cramoisie and Fabvier, as bright and as good as ever, wonderful colour there, you might almost light a cigar, on a sunny day, at a well-expanded blossom; then Chénédole has become feeble; Brennus is smothered and looks as ambitious as an alderman; Archduke Charles has as many blooms as leaves, but the colour is gone and the flowers look like washed out finery. Among the Noisettes, Fellenberg holds on with its pretty little crimson blossoms, the most cheerful and lively of all the roses that bloom continuously, and one that does better worked on the briar than any other way; so with Ophirie, she is smothered, and my best pair of perfect standards are as symmetrical as if turned out of a mould, though the knife scarcely ever touches them, and loaded with saffrony, coppery blooms to the drooping tips of every shoot.

Even if these were all we had to work with, at least half a dozen different beds might be made to give bloom until the frost came, and even after the frost, if the wind held in the south-west for a few weeks. I have often cut flowers from General Jacqueminot and Géant des Batailles on New Year's day, and hope to cut thousands more and keep friends enough to share them with me. But if continuous bloom is not a *sine qua non*, one good third of the entire rose list is open to you for your choice. All my best dwarf roses are planted in two semicircles which inclose a circular bed of standards, the path between them. It is, in fact, a circle within a circle, but the path cuts the outer circle, goes round right and left, and cuts the large circle again at the opposite side, the centre bed having the walk round it, and the semicircles on each side of it, beyond the walk.

Now here let me mention a matter on which I dwelt with some force when lecturing on the rose to gardeners' societies. Standards look miserable sticks all winter, and standards and dwarfs alike arerather ugly things when out of bloom. Therefore, roses in masses are not the best things to plant near the drawing-room windows; the enjoyment they furnish during their season of beauty is scarcely a sufficient compensation for their ungainly aspect during their season of ugliness. Even when removed, so that there must needs be a walk to see them, they want a little help during the bright days of winter and early spring; for if we stroll about our gardens at such times, we may as well view every part of them with pleasure, and be absolved from having to confess that the roses look very wretched. Now, what can be better in a compartment of roses than a good sprinkling of rhododendrons, to keep a cheerful greenness all the winter, and a brave show of bloom in spring, when the roses are just getting ready to captivate all the eyes that shall behold them. In my two semicircles the planting is in this fashion: All round next the box edging dwarf hybrid perpetuals and Chinas, the showiest sorts repeated to give character, but as many varieties worked in between as

there is room for, simply because I am so pinched for space, and want all the good roses before me. The next row is of taller growing kinds, such as General Jacqueminot, Auguste Mie, Caroline de Sansal, Triomphe de l'Exposition, Souvenir de la Reine, Madame Laffay, Armosa, Anna Alexieff (one of the grandest roses, lovely rose colour and superb in proportions and outline), Louis Chaix, Souvenir de Malmaison, etc. In this row evergreens are mixed to give body to the arrangement. Thus we begin with Anna Alexieff, one on each side where the circle opens right and left. Then, going round one side, we have next Anna, a Kalmia latifolia; then General Jacqueminot; then rhododendron Blatteum; then Auguste Mie; next Kalmia latifolia; next Caroline de Sansal; next rhododendron Hendersoni; next Jacqueminot; next Kalmia latifolia; next Madame Laffay; next rhododendron Queen (a splendid claret colour, every one should have it); next Jacqueminot; next Kalmia latifolia; next Armosa; next rhododendron Atro-rubens purpureum; next Louis Chaix; next Kalmia latioflia; next Jacqueminot; next rhododendron Maculatum nigrum; next Duchess of Sutherland; next Kalmia latifolia; next Jacqueminot; next rhododendron Jacksonii; and we come to the other end of the semicircle, and turn round and find the other half planted exactly to match. Behind this arrangement, Jules Margottin comes in for repeats, just as the General does before it, with variegated hollies to help out, as the Americans do in front, with tall standard Noisettes between. Behind these to fill in, Maiden's Blush is the sort repeated, with mixtures, of robust-growing roses, and phillyreas to give the evergreen relief. At the extreme corners are at one end a pair of Irish yews, and at the other white cedars, to prevent the eye running away into the beeshed or the rockery just beyond, or taking the line of the privet hedge at the back, which leads to a perspective of espalier appletrees. The circular bed consists of three circles of standards, with Jacqueminot in "the betweens" inside and Chinas round the margin. To give the names now will make too long a story. Here, then, we have variety with uniformity, and something worth seeing all the year round.

Some such arrangement is what they want at the Crystal Palace. I never saw roses look better than those in the sloping beds on the mount did at the time of the National Rose Show, and as I spent a fortnight loitering about there, poking among the trees and shrubs, I took occasion to note down the sorts used in filling the compartments. When I had another turn to see the bedders the roses were miserable, and really spoilt the picture as seen from the turf below; they were like a lot of ragamuffins at a wedding breakfast. A regular mixture of evergreens have helped them out at such times, by taking the eye away from the bloated buds that the rain had soddened, and the dangling rays of expended blossoms that were chattering among their bleached petals, "all that's bright must fade, the brightest still the fleetest." Deferring till next month a general summary of bedding roses, and advising planters not to plant dwarfs till spring, but to get in standards instanter, I will here give the arrangement of sorts as I found them in the beds at Sydenham.

The rose mount is divided into six compartments, and the sloping beds form six segments of the circle, the walks up to the temple dividing them, and rendering them so far distinct that each separate compartment may be judged on its own merits. There were in the rows a good many gaps, and in some places as many as a dozen roses had disappeared together, leaving very sad blanks in that beautiful assemblage. Then, where blanks of previous seasons had occurred could easily be seen, because sorts had been used to fill up different from those originally used. But the winter of 1859-60 did less mischief among the roses there than in some of the nurseries. Mr. Rivers says, in his new catalogue, that "many thousands" of rose-trees and budded stocks were killed at Sawbridgeworth; and the rose mount at Sydenham is sufficiently exposed to give the roses but a moderate chance in such an arctic winter as the last. But, setting aside gaps and patches, here is the general arrangement in the crescent-shaped beds as planted:—

Common China.
Madame Laffay.
William Jesse.
Duchess of Sutherland,
Jacques Lafitte.
Lady Flora Hastings.
Common China.

Taking this as a sample, and remembering that Common China is used all through as an edging, and the best edging for high-coloured roses. The rest of the beds read thus:—

Géant de Batailles.
Baronne Prévost.
Madame Domage.
Reine de Bourbons.
Robin Hood.

In this lot Robin Hood made only a middling figure; it has long ago been beaten as regards display, though a charming rose in shape and colour.

Géant des Batailles.

William Jesse.
Mrs. Elliot.
Jacques Lafitte.
Baronne Prévost.

This compartment was, I think, the best, Mrs. Elliot forming a splendid centre line.

Prince Imperial.
La Reine.
Baronne Prévost.
Géant des Batailles.
Mrs. Elliot.

Respecting the first row I cannot speak with certainty, it is a good deal mixed; and Prince Imperial, or something like it, had been the original planting.

British Queen and Géant (mixed).
Viscomte de Cussy.
Duchess of Sutherland.
Jacques Lafitte.
Triomphe de Plantier.

Respecting the second row, Viscomte de Cussy appeared to be the leader, but it is much mixed and terribly marked with blanks.

William Griffiths and Caroline de Sansal.
La Reine.
Clementine Seringe (mixed).
Géant des Batailles.
Rivers.

Among the mixtures, Standard of Marengo and Dr. Marx are conspicuous, and do no violence among high-coloured roses. Indeed, bedding roses mix better than most things, because an outrageous contrast is impossible, the range of colour being chiefly limited to the various shades of pink and red.

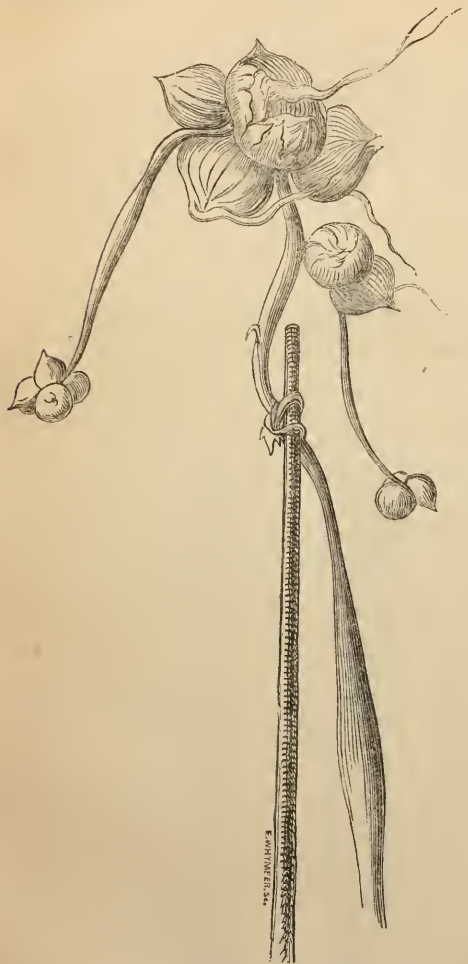
SHIRLEY HIBBERD.

SELECTION OF PLANTS FOR AN AMATEUR'S GREEENHOUSE.

Name of Plant.	Colour.	Month.
Acacia rotundifolia	yellow	April.
Acacia armata	yellow	May.
Aphelexis humilis	pink	May.
Aphelexis purpurea	purple	June.
Borbonia cricifolia	pink	January.
Cassia corymbosa	yellow	July.
Cestrum aurantiacum	orange	November.
Chorozema Henchmanni	scarlet	May.
Chorozema varia	orange	March.
Correa speciosa	scarlet	June.
Crassula coccinella	scarlet	July.
Crowea saligna	purple	September.
Cytisus atleeana	yellow	March and Aug.
Cytisus racemosus	yellow	March.
Daphne odora rubra	red	April.
Deutzia gracilis	white	April.
Dielytra spectabilis	pink	Jan. to June.
Echium argenteum	blue	June.
Epacris miniata	white, vermilion	May.
Epacris impressa	crimson	June.
Eriostemon intermedia	rose	April.
Eriostemon gracilis	lilac	June.
Eutaxia myrtifolia	orange	August.
Gardenia citriodora	white	March.
Gardenia amæna	pink	July.
Habrothamnus fasciculatus	crimson	March.
Magnolia fuscata	white	April.
Myrtus communis, fl. pl.	white	July.
Nerium oleander	red	August.
Pimelea decussata	red	May.
Pimelea spectabilis	white	May.
Witsenia corymbosa	purple	June.

THE BEST PICKLING ONION.

For more than ten years, we have not once met with a crop of the old tree-onion in any garden we have visited; nor have we heard a word respecting it which would lead to the belief that it anywhere enjoys esteem as an esculent. We have been familiar with it for more than twenty years, but, like the rest, let it pass out of our hands, and thought no more about it till, five years since, we received through the post from a correspondent three bulbs of the size of marbles. We were so delighted to reopen acquaintance with an old friend, that we would not risk planting them in the open ground; so they were potted in rich compost, and watched with jealous eyes, and in two years from that time we had stock enough to plant a large breadth in the kitchen-garden. We were not, however, aware of its excellence as a pickling onion, till we made the experiment of pickling them ourselves; for the household had a prejudice against them, and the time-honoured silver skins were cited in their defiance. We had a quantity of the smallest bulbs, not larger than those shown at the top of the cluster in the subjoined cut, scalded and cleansed of their skins. They were tumbled into glass jars with plenty of spices, and filled up with vinegar, and at once committed to a cool oven, where they remained for some hours, till they were heated through, but not to boiling-heat. This plan was recommended in the "Garden Oracle" for 1859, p. 128, and is the quickest and easiest of methods for those who like soft pickles. We then convened a council of taste, consisting of a few gardening friends, who possess discriminating palates, and, with the help of the butcher and the cook, gave the onions a fair trial. They were unanimously pronounced to have an elegant appearance, being small and regular in shape, an exquisite flavour, not only surpassing the best pickled onions of other kinds, but any and every other pickle—walnuts only excepted, which, by the way, belong to another class of flavours.



The Tree Onion.

The tree-onion ought to have a leading place in every kitchen-garden in

Great Britain, for, once get a few bulbs, and you are sure of a crop, whether the soil be poor or rich. You are free of the risk attending the sowing of seed; for onion seed is always uncertain, and hence the common practice of mixing two or three sorts, in order that if one fails the others may grow; and you are free in a great measure of the depredations of the maggot; certainly we never knew an instance of the tree-onion being attacked by it, though we have seen beds of Reading and White Globe, close by, pretty well devoured. Besides these advantages, the ground bulbs are just as good for the kitchen as any other onion, and keep for twelve months if necessary. The best rule for its culture is, "plant on the shortest day, and take up on the longest." Let the ground be well dug, liberally manured, and trod firm. Choose for planting the largest of the top bulbs, which are generally over an inch in diameter. Press these down firmly to the line, and then cover over with three or four inches of charred rubbish, charred turf, light rich soil, or sandy road-scrapings. They may be six inches apart all over the plot, but the best way is to have a few long rows down the side of a piece of ground, where you can conveniently put a few stakes at about a yard apart on each side of the row, connecting the stakes with hazel rods, or laths, or wires, or even rope-yarn, to give a little support to the stems when they get top-heavy with their curious crop of onions at the summit of each. In good soil, and liberally treated—as watering in dry weather—well supported, and kept clean from weeds, they will increase every year at least twenty-fold. On one plant we have had thirty bulbs, large and small, on the top, and two ground bulbs in place of the one planted. If the ground bulbs are well ripened, they may be planted instead of the largest from the cluster. We may remark in conclusion that the tree-onion is a curious and interesting plant, and when forming its top bulbs, a truly beautiful object.

LONDON PLANE-TREES.

Among the City trees of special note, I suppose the plane-tree at the corner of Wood Street, and the two planes at Stationers' Hall must enjoy the first and foremost place for purposes of comparison. Of the two at Stationers' Hall, one only is known to the general public, because it occupies the inclosure in the thoroughfare from Amen Corner to Ludgate Hill. The other is in the garden on the west side of the Hall, in the rear of St. Michael's Church, and accessible by means of a little alley passing under the Hall, which a stranger may discover for himself by simply looking for it. The one hidden from public view is so much finer than its companion in Stationers' Hall Court, that an observer, uninformed as to their history, would pronounce itten years older at the least. But they are both of the same age, were planted the same season, and their difference of growth must be attributed to the more favourable nature of the circumstances under which the one on the west side is placed. But there they are; the one in the thoroughfare is drawn and spindling; the wind has at different times stripped it of some of its best branches, and being closely shut in by high walls, its growth is weak and spare compared with that of its neighbour, which is as retired as if fifty miles away, with plenty of light and air, and is really a picturesque and robust specimen of the so-called occidental plane. As to what such trees are capable of in the darkest nook of a smoky city, these are certainly encouraging examples. They are over fifty feet in height, are well proportioned, quite healthy, and with not a wound visible on any part of the trunk of either of them. Their age, from the nursery stools, is something under forty years, so their growth during the whole term of their existence has been at an average of fifteen inches per annum.

When I asked these trees about their history, their reply was, "Story! God bless you, we have none to tell, sir;" and yet, like the knife-grinder, they have a story after all, but it is a brief one. They were planted in the year 1825, by Joseph Greenhill, Esq., the respected treasurer of the Stationers' Company. The one in

the thoroughfare was planted first, the other shortly after, but neither of them were planted in commemoration of any particular event, as they ought to have been, to give them a historical place in the topography of the City. Where they now stand, the ground was occupied with poplars, which had succumbed to the influences of City smoke, and become bare poles. Before the poplars, the plot in Stationers' Hall Court was occupied with buildings, and through the whole history of the departed poplars and the present plane-trees not a single spoonful of fresh soil has been brought to the place; so the plane-trees have attained their present magnitude and beauty under a combination of the most untoward circumstances. Mr. Greenhill is unable to inform me whence these plane-trees came, but he thinks they were bought at Covent Garden by the gardener at the Temple. To trace them to their source would be interesting, not only for the sake of getting their history completed, but as a help towards solving the botanical questions that hang about all the plane-trees of the City and the parks. The trees differ; that in the garden behind the Hall was clean stripped of its leaves on the 11th of this present October, that in the court had not then shed a leaf or changed its colour. That in the garden has small, entire lobed leaves of irregular outline, one lobe projecting so as to give the leaf a decidedly auricled character. The leaves of the other are large, deeply toothed, and the lobes quite symmetrical, the foot-stalk twice the length of the other; the larger leaf is distinctly quinquangular, the smaller is irregularly erose, with the auricled lobe variously on the right or left hand of the foot-stalk. The leaves of both these trees differ from the tree at the corner of Wood Street, and the peculiarity of this last is, that in general habit it resembles the one in the garden of Stationers' Hall, and was bare of leaves on the 11th of October, and its leaves are so various in outline, as to represent all the several divisions of the type to which it belongs. Of three leaves now before me, one is of large size, bluntly triangular, the side lobes symmetrical, and the margin crenate throughout; another is the exact counterpart of a large leaf of Irish ivy, and another closely resembles the auricled leaf of the tree in Stationers' Hall garden. The foot-stalk is of medium length, longer than the last-mentioned, but shorter than the tree in Stationers' Hall Court. It may be worth adding, that when the Stationers' Hall trees were planted, the corners of the plots were furnished with thorns which grew and flowered well, until their quicker growing neighbours choked them, and they had to be removed.

These three trees, and many others that peep over the tops of City houses, are of the kind known as the occidental plane; but there is no such thing as an occidental plane to be found anywhere in the City. The true occidental plane is so tender in this climate that it has never yet grown to the stature of a tree. Its habit is to make vigorous shoots, bearing a grand foliage of a character very distinct from the London plane-trees. Instead of being deeply palmated, as are the leaves of one of these Stationers' Hall trees, the leaves of Platanus occidentalis are very slightly lobed, and almost circular, and there can be no mistake as to its identity with those who know the distinctions of the species and varieties of platanus. But the vital point for practical purposes is in the fact that during winter the greater part of the previous season's growth is killed back, and to raise standard trees of it in this country is a proved impossibility. Mr. Rivers, of Sawbridgeworth, has observed the growth of P. occidentalis during the past forty years, and he says, "I remember endeavouring to form into standards the young trees raised by layers from the stools, as their foliage was so grand, but could never succeed." Sir William Hooker has attempted the same thing at Kew by raising plants from American seed, "but the annual shoots are killed down every winter." What, then, is the tree that does so much to adorn our City gardens, and that gives so distinct a character to the wood of our parks? Mr. Rivers has probably set the matter at rest by describing it as Platanus acerifolia—the maple-leaved plane; but its origin cannot be definitely stated, except so far as this—that it is certainly not American; and, as remarked by Dr. Lindley, in the *Gardeners' Chronicle* of January 21, 1860, "that it is of Eastern origin we can scarcely doubt."

Granted, then, that we have no occidental planes in the City, and that those bearing that name should be designated maple-leaved planes (Platanus acerifolia), we must fall back on Miller for the best indications we can get of its original whereabouts. Miller grew this maple-leaved plane, and believed it to be a seminal variety of the Eastern plane, "for seeds which scattered from a large tree in Chelsea Gardens, have produced plants of that sort several times." But Miller had also

the Spanish plane (P. Hispanica), which Loudon has catalogued under the same name. This Spanish plane has larger and more divided leaves than the maple-leaved plane, and the latter may be but a variety of it; if so, our so-called occidental plane is of Continental origin, and its hardiness need be no subject of surprise. Mr. Rivers says he receives plants of P. acerifolia in four distinct varieties from France. The type of these is identical with our occidental planes, and has probably been known in this country for centuries.

There are probably more than four varieties of the maple-leaved plane in the gardens of the City. The one in Stationers' Hall Court I take to be Platanus acerifolia palmata. Its leaves are largely made up of straight lines, and the angles are sharp and distinct. The tree in Stationers' Hall-garden I suppose to be P. acerifolia pyramidata; its habit is erect and compact, and the leaves are very slightly crenated. The tree in Wood Street is probably a seminal variety, not agreeing with any described kinds, and if so, it might be catalogued as P. acerifolia heterophylla. One thing is certain, they are not occidental, but Continental maple-leaved planes. The maple-leaved plane, then, is the best of all City trees, and will thrive in a sour and exhausted soil, and make real timber, where most other trees would with certainty perish. One reason why it thrives so admirably in the City is because its leaves have a glossy upper surface, to which deposits of soot do not readily adhere. Look over the lists of City trees that really prosper in the smoky atmosphere, and you will find that, in this fact you have a key to the problem why trees of equal degrees of hardiness behave so very differently in the midst of towns. Conifers perish because they exude resinous matters, they readily hold the soot, and their stomates are closed and suffocation follows. The horse-chesnut has a gummy secretion about its bud and leave-stalks, the lime produces honey-dew; the elm has an absorbent leaf-surface, and if there were no other reasons, these would suffice to explain why it is rare that thriving examples are met with in great cities. Leaves of leathery or papery texture, glossy, and not largely furnished with stomates are the least affected by atmospheric impurities, and trees with such leaves are the best for planting in the midst of cities.—S. H., in *City Press*.

A CHAMELEON BORDER.

I have, this summer, had a border which I called my "Chameleon border," because during the spring and summer it has changed its colours and its plants three times without being at any time denuded of flowers. Thinking it a somewhat novel feature in flower-gardening, that may, perhaps, be improved upon, I subjoin the recipe for forming it:—The border is about fifteen inches in width, between a grass edging and a young shrubbery, growing on each side of a winding walk. The best time to begin one is September. Procure a packet each of Myosotis pedunculatis and Iberis odorata, and sow on a nicely dug piece of border, in order that the plants may get strong for transplanting into their flowering border, which do as follows:—As soon in November as the present plants are destroyed, or rendered unsightly, clear and dig the border, then prick carefully into it a single row of the myosotis, and water the same, which will, early in spring, reward you with a line of charming blue flowers. These may be placed about six inches apart; then in March take plants of the iberis, and prick two plants between the myosotis; these will grow on, and eventually mingle their white with the blue of the myosotis, just as the latter begins to get a bit seedy, and which must be cut away by degrees to make room for the iberis, when you will have a line of pure white. Whilst this is in beauty, be getting forward, in single pots, plants of scarlet geranium, so that when the iberis begins to fade, these may be planted out immediately behind, and will mingle their scarlet with the white, and as the white fades and is gradually removed, they will take their stand for the rest of the summer.

H. Howlett.

REMINDERS FOR NOVEMBER.

Auriculas.—Damp is now their great enemy, and yet water must be given if they want it at the root. Keep the glass over them, and give air liberally.

Azaleas.—Keep cool, or they may start too soon; a few may be started very gently for the first bloom.

Camellias to be arranged for their order of blooming, and those to come in first to be put in a warm house, and to have weak manure water.

Carnations.—Same as auriculas.

Cinerarias have now their seasonal ordeal to pass through, and must have every proper attention, or mildew will eat them up. Sulphur them if there is the least sign of the plague, and give plenty of air. Get specimen plants into shape, and put the early ones into their blooming pots, stop ten days after shifting.

Dahlias.—Take up at onee, or as soon as the frost has spoilt their beauty. A few dahlias which we took up on clean stems by disbudding rather late in the season are now nice standards in pots, and will make a show under glass for some time to come. This may be a useful hint to those who have heavy demands upon them to keep conservatories gay.

Fuchsias stored under stages had better not be pruned, except just the points of the longest shoots, as it causes them to break before they are wanted. Late struck plants will be in nice bloom now for the conservatory, and cuttings may now be put in for early plants.

Geraniums ought to be out of their beds, and established in pots by this time. If any remain out, get them up before they melt into a jelly, and give them a warm berth for a week or two, to enable them to get hold of the new stuff in which they are potted. Poor sandy stuff for all bedders that are merely to be kept, as the less growth the better.

Kitchen Garden to be kept very clear of dead weeds and rubbish, and the muck-pit to be emptied at the first opportunity, and the stuff turned to the frost. Earth artichokes, store potatoes, store endive, parsley, and lettuces in old frames; get hand-glasses on cauliflowers, sow peas and beans, if you mean to risk it; keep the unoccupied ground in a state of agitation.

Pelargoniums have been pretty free from disasters hitherto; but the season of mildew is upon us. Use fire-heat by day only during frost and damp, train and stop, water sparingly, do not wet the foliage.

Tulips to be planted at onee. Lord Mayor's Day is the commeneement of the session among the faneiers; if planted earlier they break ground too soon in the frost; if later, they flower weakly. But bedding tulips may be planted any time from the 1st of October to the middle of November. See Floral World, June, 1860, p. 117.

Vines have done very badly this season where their roots are outside, and means for securing warmth and dryness at the roots are now generally recognized as the first essantials in grape culture. Whatever can be done, therefore, to improve the circumstances of vines planted outside should have attention now. Putting dung on the border does more harm than good. Good dry litter and wooden shutters would be far better to throw off the wet and keep in the warmth, for more heat comes from below than above at this time of year.

TO CORRESPONDENTS.

The Garden Oracle for 1861 is now ready, price 1s. It contains a carefully-prepared calendar of garden work for the months—a list of 365 hardy herbaceous plants to bloom every day in the year—lists of the winning flowers, showing at one view the progress of floriculture during 1860—an essay on the amateur's greenhouse, comprising a complete code of management and practical operations—an account of a new hardy native Spergula, adapted to form lawns, without mowing, on sandy and gravelly soils—and various notes on pigeons and poultry, and useful hints for the household. As it has been unanimously pronounced the best garden and domestic almanac extant, we have determined it shall maintain its character, and improve from year to year. The issue for 1859 contains a list of greenhouse plants for every day in the year, and that for 1860 a similar list of Ericas. Copies of each may still be had.

Peat Pots and Lumps.—*A. Johnson.*—"Peat pots" are made of peat dried but not baked. The plants grown in them are planted without turning out, that is, in the pots, firmly plunged. The pots crumble away, and the plants root into the soil that surrounds them. Respecting the other invention, all we know is as follows, which we take from the *Mechanics' Magazine*:—"2818. G. C. Watson. Novel and artistic bricks or 'lumps' for the reception, growth, and propagation of ferns, mosses, and other plants. Dated December 12, 1859. This consists in the construction or use of 'bricks' or 'lumps' having recesses or pockets formed therein for containing soil and so forth, for the reception, growth, and propagation of ferns,

mosses, and other plants. These recesses or pockets the patentee forms with one or more perforations or passages for drainage or irrigation, and he prefers to form the pockets or recesses in the face of the bricks or lumps with shell or other suitably shaped projecting lips. Patent completed."

CORNISH METHOD OF GROWING EARLY POTATOES. —*Rex Rubrorum.*—The potatoes are set in December and January. The sorts planted are the kidney and the ash-leaf kidney. The best ash-leaf kidney are procured from Somersetshire, and are planted in the neighbourhood of Uxbridge. The best soil is a light loose soil, and the ground should be well worked. Old grass land is preferred. The seed should be set about eight inches in depth, four inches distance from each, and the rows fourteen inches apart. An open situation, facing south or south-east, is the best situation—proximity to the sea is the most advantageous. The best manure is long stable-dung covered with sea-weed, the seed being first slightly covered with earth. The finest, cheapest healthiest seed is best. When cut, never plant a piece with more than two eyes, some prefer one. When small potatoes are used, they are sometimes planted whole. To protect the tops from being injured by early spring frosts is impracticable in extensive plantations; but, in small quantities, they may be protected by being planted in sheltered situations, and litter kept over them, or by trenching them as celery, and covering the trenches with litter transversely till the weather becomes warm.

BOOKS AND CATALOGUES RECEIVED.—"Lawson and Sons' Catalogue, No. 16, for Colonial Circulation," is an admirable *resumé* of horticultural and agricultural essentials for colonial use. The seed collections ready packed for the colonies are described in detail, and all that is really good in garden and farm seeds has its place and its price in a beautifully printed sheet of forty pages, issued by the first seed warehouse in the world.—"Chater's List of Hollyhocks, 1860-61," contains a list of Mr. Chater's new seedlings, and the best of the old varieties, grown at the nursery, Saffron Walden. Indispensable to hollyhock growers.—"Catalogue of Fruits, by Thomas Rivers, of Sawbridgeworth, 1860."—The best fruit catalogue extant, and amusing as it is useful. Mr. Rivers is quite in favour of tiffany-houses, as will be seen by an extract from his catalogue in another page.—"Descriptive Catalogue of Selected Roses, by Thomas Rivers, of Sawbridgeworth." Mr. Rivers continues to prune his catalogues as well as his roses, inferior sorts are expunged, and none entered but such as are of unquestionable excellence, or so far famous as varieties as to be indispensable to the completeness of the list.—"Paul and Son's Rose Catalogue, Old Cheshunt Nurseries, 1860-61." A capital list; we see in it all the best of the new roses.—"William Paul's Rose Catalogue, Cheshunt Nursery, Waltham Cross, N." These catalogues are almost counterparts of each other, but there are now two Pauls, and henceforth Mr. George and Mr. William Paul have their paths parallel but separate.—"Catalogue de l'Etabblissement Horticole de Ambroise Verschaffelt, Ghent." Among the new plants in this useful list are some showy begonias, three new camellias—M. d'Offoy, Triomphe de Woudelham, and Comte de Gomer—of the merits of which we have no personal knowledge. In high class stove, greenhouse, and conservatory plants this is a full and useful catalogue.—"Milne and Co.'s Catalogue of Hyacinths and other Dutch flower roots."—Just sufficiently extensive to enable amateurs to choose without bewilderment, yet without losing anything of real and established excellence. Hyacinths best adapted for growing in water are indicated, and mixed hyacinths for beds are offered at a cheap rate.—"Descriptive Catalogue of Selected Roses, John Cranston, King's Acre, Hereford." A very handy octavo catalogue of forty pages, well arranged, and including all the good new and all the best old roses. The descriptions are truthful.—"Old Jonathan; District and Parish Helper," One Penny. A cheerful and attractive broadsheet, issued monthly for distribution among cottagers. Its kindly tone is sure to win, its variety will amuse, and its able and earnest homilies must advance the cause of true piety and moral goodness amongst its thousands of readers. It is a sort of monthly olive-branch borne abroad by a messenger of love.

COKE FIRES.—*W. C., Mile End.*—Coke is the best fuel, and that mostly used. If your flue is defective, the evil must arise, no matter what fuel you use. The injury you complain of is owing to the ingress of smoke, not to the nature of the fuel. No doubt when the work is dry it will do its duty. Baker's coals are all very well for furnaces that have constant attention, but coke broken small takes care of itself.

SEED OF GLADIOLUS.—*H. M. G.*—Keep it dry till March, then sow in pans in fine peaty stuff, and give gentle bottom-heat, and the seedlings will come up like young leeks, and only want fair greenhouse treatment till May, then to be planted out in a mixture of peat and leaf-mould, and taken up when they have done growing for the season. What sort of round bed is it, in six compartments, that you want to fill? Send a rough sketch of it, that we may see it in our mind's eye.

PURPLE ORACH.—*R. U., jun.*—This is the plant which we described as Chenopodium atriplex, which Mr. Beaton described as Perilla. It differs from Perilla in the rich crimson purple of its young growth, the Perilla being a rich bronze. It belongs to the spinach family, and may be eaten as well as admired. To use it as a bedder, sow in May, and plant out six inches apart, and keep it constantly topped to prevent it running coarse, and to secure plenty of the young pinky purple growth. It is a most decided and most beautiful colouring agent for beds and ribbons. It is quite hardy. For the culture of Ixia and Sparaxis, see p. 226 of our volume for 1859. All they want as to temperature is security from frost, but a little warmth does them no harm.

TWELVE ROSES FOR A TOWN GARDEN.—*K. M.*—General Jacqueminot, Madame Laffay, Géant des Batailles, Anna Alexieff, Souvenir de Malmaison, Aimee Vibert, Ophirie, Fellenberg, Gloire de Dijon, Caroline de Sansal, Baronne Prevost, Cramoisie superieure. These are the best twelve in your list for London. Your camellias that are making wood shoots must have their own way. It is quite too late for them to make flower-buds this season. The Editor's camellias are certainly not in such a truant mood, but made all their flower buds long ago, and are ready to bloom if commanded to do so.

KEEPING A LARGE GERANIUM.—*J. P.*—Your large Frogmore, on a west wall at Bethnal Green, will certainly not stand the winter where it is. If you were to box it in and put a frame light in front you would probably lose it, though if the winter should be mild, a little care as to keeping it dry and matting up during frost might carry it through. But by "no convenience for in-door protection" you don't mean to say that you cannot manage to keep it in a window, in as small a pot as its roots will go into. We would keep such a geranium, if no other

means were at hand, by taking it up in a ball, putting a piece of canvas round the roots, removing all the leaves, and then slinging it up in some dry place. Or we would keep it in a pot out of doors all the winter long in a sheltered place, except during heavy rains and frosts, and at such times it would not perish if put in a cellar for a week or so at a time. We can sympathize with your desire to keep it, but we cannot advise you to do other than adopt one of these three plans.

CAMELLIAS FOR WINDOWS.—*J. P.*—Here are a few that will suit you, and you must treat them as recommended for greenhouse culture, with, of course, such modifications as window management will compel. You must take care to sponge the leaves frequently with tepid water, and to syringe them once a-day at least, when they begin to grow after flowering. When you buy them, let the nurseryman understand that they are for window culture, and he will (or should) let you have plants that will not need repotting for a couple of years. Aitoni, Alexina, Beali, Coronata alba, Double Red, Eximia, Imbricata, Jeffersonii, Montironi, Nitida, Optima, Saccoi. The value of varnished cotton as a protector all depends on the skill with which it is used. Some people can keep geraniums and other bedders as if by magic, with the most flimsy contrivances imaginable. As you are a beginner, we advise you to trust only to glass, with thatched hurdles to go over during frosty weather.

DAMP WARDIAN CASES.—*J. L.*—Your ferns ought to bear the opening of the case, and if they are accustomed to have air they will yet used to it and cease to turn mouldy. Mould never appears among well kept plants unless the air is stagnant. There ought to be a ventilating slip of perforated zinc, or something of the same kind all round the top of every fern case. You cannot have read the FLORAL WORLD with much attention to be able to strike no more than one in twelve of cuttings, and no choice geraniums. There is no need of Wardian cases at all to strike cuttings of ordinary bedding plants, and by keeping yours at so high a temperature you half cook them before they can make roots. Strike geraniums during summer in the full sun out of doors, and fancy ones in shallow pans filled with sandy stuff on a top shelf of a greenhouse. We strike dandy and all the miffy fancies that way, and let them stand in the cutting pans all winter. You must give more air and less water, and all will come right.

SILICEOUS STONE.—*Lady D.*—Mr. Ransome's address is, Patent Stone Works, Ipswich. The London offices and show-rooms, are at Cannon Row, Westminster, and there any information respecting the imperishable stone can be obtained.

VARIEGATED ALYSSUM, ETC.—*A. B.*—Plants from cuttings struck in spring are better than those struck now, and grow quite fast enough for bedding. Small plants of rhododendrons to be planted in masses should have about a six-inch space between the circumferences of their leaves. This space they will cover in the next year's growth, and the sun will thus be screened from their roots and they will flourish. In gun-barrel budding the incision is made on the stem instead of on a branch of the stock, and the stem being stouter will take a larger shield, and hence buds for this sort of work must be cut from plump shoots. You are mistaken in supposing there should be an additional cut such as those at the bottom and top of the letter I, the incisions should be in the style of this sort of T, that is, no cross cut below.

ORANGE-TREE.—*S. J. C.*—The leaves you send are in no way injured, but they indicate a state of poverty in the trees. The soil had better be removed from the top of the tubs, as far down as it can be loosened away without harm to the roots, though if a few surface fibres are cut away it will be no matter. Fill in with a mixture of turfy loam and old cow-manure, rammed in hard, and the new soil will soon be filled with fibrous roots, and the trees will renew their health. The fine fruit you have now is the result of the strength they acquired under your gardener's management. Potentilla has a calyx of five lobes, a rose-shaped corolla of five petals, tube of the calyx not encircling the fruit, the drupes arranged upon a common receptacle—Linn., 12 Icosandria, 3-Trigynia.

WALL PLANTS.—*Bob.*—Greenhouse: Tacsonia mollissima, Passiflora Loudoni, Ipomœa ficifolia, the larger flowered Clematis azurea, Camptosema splendens, Kennedya Marryattæ, Hardenbergia macrophylla, Mandevilla suaveolens, and Dolichos lignosus. Hardy: The Pyracatha, Clematis montana and Hendersoni, Caprifolium sempervirens, gratum, and flexuosum, Chimonanthus fragrans and grandiflorus, Glycine sinensis, Bignonia radicans, Passiflora cærulea, jasmines and magnolias. Of climbing roses, Boursault, Rose de Lisle, Bougainville, Jaune Desprez, Ruga, Blairii, and the Ayrshire roses, will answer your purpose.

GREENHOUSE-HEATING.—*Original Subscriber*—The best method for your house is by using a 24-inch saddle boiler, and connecting 4-inch iron pipes with it to circulate quite round the house, and as there is plenty of room to sink the furnace, we advise it being sunk sufficiently to allow of the pipes being inserted in a groove, and covered with an iron grating even with the floor of the house. Connect two pipes with the flow from the boiler by means of a syphon bend, carried past the door into the garden along the front, round by the door leading from the drawing-room, and then along the back into the boiler by means of a syphon bend connected with the return pipe. This plan will be the cheapest and best for the inhabitants of the drawing-room as well as the inhabitants of the greenhouse. We have marked on the plan the course of the pipes, and will forward it if you like to send a directed envelope.

VARIOUS.—*P. K. Q.*—Thanks, a sketch would oblige.—*H. B., Larkfield.*—Your asplenium is trichomanes, and you missed it in the book because the figure at page 182 shows it in the crenated form, but yours has the pinnæ entire. The triangular frond is Polypodium dryopteris, the lanceolate frond is Polystichium angulare, var. subtripinnatum. Glad to hear of your success in rooting buds of roses. A great many of our readers send similar reports. In a hot season they will root much quicker than they have done this.—*A. W.*—The practice of planting orchard-trees in the border is a good one, provided the trees are lifted every year in November to prevent rank growth and promote the formation of fruit spurs. That cats run over tiffany-houses is horrible, most horrible, and makes our hair stand on end. Well, we must use some sort of *chevaux de frize*, or reduce the feline population. — *Zebra.* — We answered each of your inquiries. We cannot refer to your letter, because we destroy all that have not real names as soon as they have been attended to.—*Postmaster.*—The lateral bulk is the test of value, not the height. Pay for it at the rate of five shillings per foot, measured through the base. Best moved in March, but may be moved now, and must be in a dry position, and no manure till beginning to grow in the spring.

THE

FLORAL WORLD

AND

GARDEN GUIDE.

DECEMBER, 1860.

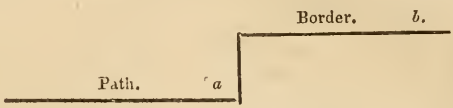
ONCE A-YEAR everybody has a word of greeting to give and to receive, separate and distinct from all the greetings that have gone before during the whole twelvemonths' round. We would not evade or forget so good a custom; the ties that bind us to our readers have grown strong, the strands have increased in number, and we may, without boasting, rejoice in "troops of friends." This is the close of our third year; we trust the past has been fruitful in useful experiences to us, and that the future may be more so. When we first started, it was in no fear of the result, for we had many anticipations and promises of success. If we say that these have been more than realized, we shall have said sufficient to assure all who take interest in the progress of the FLORAL WORLD that neither our small labours nor their hearty encouragement have been in vain. The small size and monthly issues of the work give it but a humble rank, and we would not, in the face of the more ponderous and elaborate works that serve as connecting links among the interests of horticulture, speak a word which might appear pretentious. But as editors are expected, once a-year, to say a word about themselves, we will take our place among the number of those who labour to be useful, and conclude, from the success which has attended this publication, that we are so. To please everybody was never our intention; but if it had been, we should nearly have succeeded, for kind words come from all quarters, and the general verdict is, that this is the best of all books for amateur gardeners.

To make promises respecting next year's issue is, we are quite sure, unnecessary. Our motto is "*Utile cum dulce*," and there cannot be a better for gardens and gardeners. With that motto before us, we will endeavour to merit our increasing circulation by circumspectly keeping pace with the progress of the times. We repeat the old compliment of the season, in no merely conventional sense, by wishing our readers "A merry Christmas and a happy New Year."

Portable furnaces are quite as much in request as portable hothouses; but we have hitherto been left in the lurch in this respect, and when we have constructed our houses so that the freeholder had no claim upon them, the heating apparatus has upset our cunning by requiring to be fixed in the fashion of a legal building. More than twelve months since, we made a venture on the purchase of a stove, which we expected would prove of the highest value for heating plant-houses, and we have deferred all mention of it till now, simply because we were not in a position either to condemn it or recommend it. Wanting a heating apparatus for a small lean-to in a cold corner, beside the dwelling-house, where any ordinary furnace would have been objectionable, and where gas, because of the distance of the house from the main would have been too expensive, we obtained one of Musgrave's slow-combustion stoves, put it in position, carried an iron flue round the house, and then found that we had an emblem of Vesuvius in a nut-shell, for it was about four times too powerful, and had to be removed at once to save the plants from the process of cooking. We had at the time a number of foreign birds, along with some large vessels containing marine zoophytes and fresh-water fishes in the entrance-hall. The fearful frost of October, 1859, burst one of the large aquaria, and killed the last of our Australian parakeets, and we determined to place the stove there as a protection against such accidents in the future. This hall communicates with the drawing and sitting-rooms by an archway on one side, where the stairs ascend to the upper rooms. The stove was placed in the corner most remote from the arched entrance, and fitted with an iron pipe carried up through the roof, and with a mushroom top, three feet from the roofing slates, the high wall of the house being close beside it. The heat given out was steady and genial; it required feeding only twice, or at most three times in twenty-four hours, and after burning all night, there was enough fire left in the morning to carry it on again all day with a fresh feeding of small coke. But there was one grave objection, the upper rooms were filled with an unpleasant and oppressive odour of burning coke, and unless the windows were kept open, carbonic acid collected in sufficient quantity to be injurious to health. Had we reported on the stove at that time, we should have pronounced it most unfit for heating any place where either animals or plants were to be preserved. But there were two circumstances that required consideration. The pipe or chimney outside was lower than the adjoining wall. Every one experienced in heating plant-houses knows that a flue so placed will very often refuse to do its duty. Then, again, a four-inch pipe of sheet-iron is soon cooled down by frost or cold wind, and a cool flue will rarely draw. By this time the season had passed, and the stove was put out of sight. Requiring a heating apparatus for a lean-to, twenty-four feet by nine feet, sufficient to keep out frost, the stove was tried once more, this time with a four-inch glazed drain-pipe flue, carried up six feet from the point of junction with the iron pipe, and in a position altogether free from neighbouring walls. It answered to perfection from the very first, gives a heat as sweet and steady as hot water, occasions less trouble than any similar plan of heating we have ever had to do with, and is evidently the very thing that was required for portable houses, for it need not touch the soil at all—and certainly requires no kind of fixing in it.

The house in which this stove is placed has a sunk path along the back, and a raised border of earth along the front. The sill rests on a row of

bricks, and the front consists of narrow ventilating shutters between the sill and the plate. The stove is a handsome piece of furniture, and occupies a place in the centre of the house at *a*. A four-inch iron flue, sus-



pended by wires to the rafters, goes across the border, within about a foot of the front shutters, and then turns at *b*, and is continued to the end, where it passes into the drain-pipe chimney, the length of horizontal pipe being about sixteen feet, and the chimney six feet. We are thus particular in giving details, because, as this is a *slow-combustion* stove, it must be so placed as to insure a good draught; granting which, we have no hesitation in pronouncing it a most useful and valuable invention.

The principle of Musgrave's slow-combustion stove may be understood at a glance by means of the annexed sectional diagram. The fire-box is an upright tube lined with fire-clay, and holding sufficient fuel for twenty-four hours. The top of this opens into a chamber, and thence into a second chamber, whence it escapes into the proper flue. Thus, before the heated air reaches the point of exit, nearly all the heat has been abstracted from it in the chambers, and there is only just enough left to warm the flue, which is the reason why a descending flue, or a flue interfered with in its draught by adjoining buildings, will not answer. The economy of fuel is accomplished to an extreme nicety, and hence, as there is little or no heat given out by the flue, it may as well, where convenient, be carried straight up into the atmosphere by means of an earthen pipe, or into a brick flue, if there happens to be such in the back wall. The way in which the heat generated and distributed among the three chambers is conveyed to the atmosphere of the house, independent of radiation from the exterior of the stove itself, is that on which its efficiency mainly depends. The stove is pierced all over with cells, and the cold air of the house circulates internally through the chambers without contact with the fire, as shown by the bent arrow in the diagram (Fig. 1), there being two air-chambers and four air-pipe connections, so that the stove feeds itself with cold air below, and gives out warm air over the whole of its upper surface through the orna-

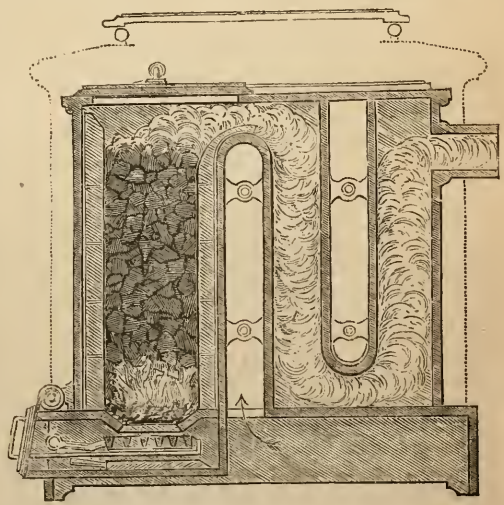


Fig. 1.

mental ironwork which forms the external case (Fig. 2). In addition to this circulation of air through the stove, the upper part, indicated by skeleton lines in Fig. 1, and by an ornamental top in Fig. 2, consists of a boiler, which, being filled with water, gives off an amount of vapour sufficient to render the heat additionally wholesome; but by withholding water from the boiler, in order to obtain a dry heat, there is no injurious gas produced, nor is it possible for injury or accident to arise so long as the draught is maintained by a proper kind of flue. It will be seen that this is a sort of combination of hot water and Polmaise, and capable of many other applications where artificial heat is wanted besides the heating of greenhouses. Messrs. Musgrave Brothers, of 59, High Street, Belfast, are the patentees, and to them we have pleasure in referring our readers who may wish for further information.

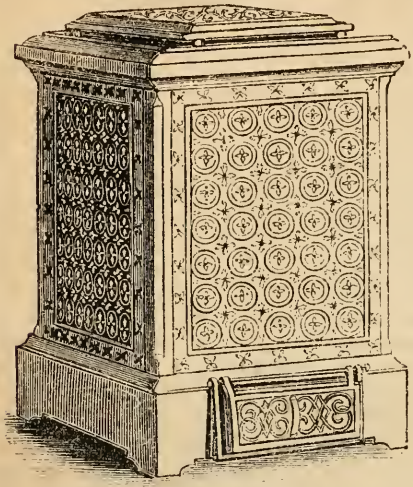


Fig. 2.

NOTES OF THE MONTH.

Crystal Palace, *Nov.* 15.—This, like all the other chrysanthemum shows of this year, was less attractive as a spectacle than would have been the case in an ordinary season. The leading contributions were in every sense excellent, and the honours of the day were deservedly divided between Messrs. Wiggins, Hutt, Bird, Paxton, Wortley, and Monk, but the third and fourth prize subjects were, very many of them, altogether unfit for exhibition, and the Company's stock of plants for decoration were in few cases either well grown or properly out. Many of the cut flowers were below average size. Christine generally wanted colour, and there was not such a thing visible either at this or any other show as a Bob in full bloom. To the praise of the growers of this increasingly-popular flower, the difficulties of a bad season had been boldly contended against, and there was so much to admire and to delight, that in making up our notes of details, we soon forgot the few spots on the sun in the enjoyment of his beams. In the Amateurs' Class for six plants, large kinds, Mr. Hutt led off with a splendid set, matched as if all were turned out of the same mould, and in even bloom all over to the edge of the pots, as if grown by some rule of mathematics. His plants were Golden Christine, Chevalier Domage, Defiance, Voltaire, Annie Salter, and Dr. M'Lean. Mr. George, gardener to J. Nicholson, Esq., Stamford Hill, came second with Prince Albert, which in its splendid colour more than justifies our praise of it when it was first let out; Insigne, Aregina, Vesta, and Madame Camerson, a dwarfer lot than Mr. Hutt's, and properly placed second, though showing the most skilful management and taste. Mr. Wiggins was third with as bold a looking six as we ever saw, and for appearance, more showy than any of the rest, but the

training was a mistake, the plants being bare at bottom, and in shape like inverted cones, with the blooms in an immense boss at the top. In this class, Mr. J. Monk, gardener to C. J. Heath, Esq., Balham Hill, and Mr. J. Hook, gardener to A. Rose, Esq., Stamford Hill, were an even fourth. For the sixes (nurserymen), single specimen (open to all), and single specimen on variety of stems, Mr. Forsyth, of Stoke Newington, took the lead, with Mr. Hutt second in the single stem specimens, and Mr. George second in the specimen with variety of stems. In pompones, Mr. Wiggins came first, with a magnificent set of six, faultless in training, evenly in bloom, and with splendid under surface of foliage for the blooms to rest upon. His plants were Adonis, Helen, Cedo Nulli, General Canrobert (which seems to have driven Drin Drin from the field), Dr. Bois Duval, and Andromeda; they were admirably placed, so as to triangle the colours. Mr. Weston, gardener to E. Martineau, Esq., came second, with Drin Drin (prim and bright as ever, but a shade less effective than Canrobert), Dr. Bois Duval, Cedo Nulli, Helen, La Vogue, and Giraldo. Mr. Weston's plants were not so flat as Mr. Wiggins's, and a trifle smaller. Mr. Hook was third with a respectable set of six. In the Nurserymen's Class for six pompones, Mr. Forsyth was first again, and in the class open to all, Mr. Hutt took a first and extra prize. The pyramids of Mr. Monk, for which a first prize was awarded (Mr. Bennett second), were pictures of symmetry, and marvels of good culture. As contrasted with Mr. Wiggins's mop-headed plants, the most opposite extremes in training were visible, Mr. Monk's plants being covered regularly with blooms from the top to bottom, foliage without a fault, and the plants shaped in the style of an arbor vita. We made a hasty sketch of Golden Cedo Nulli, as likely to be an acceptable model for our readers. The best sorts in these two lots were Golden Cedo Nulli, Duruflet, Helen, Requiqui, Adonis, and General Canrobert. In choosing sorts for this kind of culture, it must be remembered that the flowers show their faces, not their circumferences, as in flat training, and only sorts that have good centres should be chosen. At the Brixton show we saw an excellent plant of Brilliant grown in this style, and the yellow centres were so prominent as very much to detract from its beauty. The sorts above-named are excellent for the purpose. Cut blooms were not sent in large numbers, but the winning stands were in every way worthy of the prizes. Mr. J. Paxton, secretary to the Stoke Newington Society, was first in the amateurs' twenty-four; Mr. C. G. Wortley, of Stoke Newington, second; third, Mr. E. Sanderson; fourth, Mr. George. In the amateurs' twelve, Mr. George was first, Mr. E. Sanderson, second; Mr. J. Paxton, third; Mr. Wortley, fourth. The Nurserymen's twenty-four was filled by Mr. Bird, first; Mr. Wilkinson, second; Mr. Forsyth, third. Mr. Wortley was first for twelve anemones, and a charming lot they were; Mr. George, second. The class of six blooms, six of each, open to all, was a showy one, and Mr. Bird came first with Novelty, Princess Marie, Cassandra, Dupont, Marshal Duroc, Stellaris globosa; Mr. Wortley, second. It is worthy of observation that of thirty-six first, second, and third prizes, no less than twenty-three were taken by exhibitors from Stoke Newington and Stamford Hill, the soil whereon the chrysanthemum had its first start as a florists' flower fifteen years ago. Among the new varieties there were three of high merit, and the one that deserves first mention is Lady Hardinge, a seedling of Mr. Salter's, in the way of Miss Kate, but with yellow at the base of the florets, a bold flower beautifully incurved, and one that will surely make a fine figure hereafter. Mr. Bird had two seedlings; Garibaldi, a purplish lilac, globular, compact, intermediate flower, neat, lively, and shown with enough stem and leaves to prove that it has a constitution. Another seedling of Mr. Bird's is Lady Mayoress, white, nicely formed, full, intermediate. It has a bad centre, and seems deficient in substance, and the florets hang together rather loosely. It may prove better than we judge it at present,

but we cannot now say much in its favour. Mr. Forsyth had a sport of Trilby called Golden Trilby. It is as good every whit as its parent, clear gold yellow, very attractive, and should be ordered in May next, when it is to be let out. Many of the plants were very badly tallied, and, independent of bad spelling, there was a plant of Vesta, labelled Prince Albert. Printed cards would be a great improvement on written ones, and would insure correct spelling for those exhibitors who are not readers of gardening journals, in which the names of plants correctly spelt are repeatedly given. A word of praise is due, in conclusion, to Mr. Clark, of Brixton, for his collection of primulas in full bloom. They were evidently of a capital strain, and their well-shaped blooms and clear colours made real spring-time of a rather dull November day.

Albion Hall, *Nov.* 19.—The exhibition of the East London Society was a most creditable one, and the great room in which it is annually held was filled throughout, and with few exceptions as to the excellence of the subjects. The central table, on which the cut flowers were displayed, had a charming appearance seen from the gallery above, and the bank of pompones at the back, supported by large pyramids, had a most imposing appearance. The two best lots of pompones were Mr. Hutt's, first, and Mr. Bolton's, second. Mr. Hutt's were Salamon, magnificently bloomed, and the colour exquisite, Duruflet, Golden Cedo Nulli, St. Thais, Cedo Nulli, Helen. The effect was somewhat marred by Helen and Duruflet being in the same set, their colours are too nearly alike. This may be proved by putting them side by side, when they spoil each other. Mr. Hutt trains his pompones more convex than Mr. Wiggins, and we like them better. Mr. Bolton's were Helen, Golden Cedo Nulli, General Canrobert, Cedo Nulli, St. Thais, not quite out, and Mrs. Dix, one of the new ones we recommended last year, makes a splendid specimen. There were also some good plants from Mr. Pratt, for which he had the third prize; his Mustapha was well grown, but not quite out; his others were Drin Drin, Duruflet, Golden Cedo Nulli, Helen, Cedo Nulli. Mr. Stonestreet was fourth, with a set of six that

scarcely challenged criticism; they were concave, like saucers, and with an unhappy blossom here and there mourning for companionship. We hope he has for his motto *nil desperandum*. At the back row was a splendid plant of Dr. McLean, from Mr. Hutt; also Golden Christine, Defiance, Christine, well coloured, Madame Camerson, and Plutus. The labels were not distinctly placed, but we think we are right in stating that Mr. West had the first prize in this class, and we forgot to refer to the list before leaving. The extra prize for a single plant, was taken by Mr. Hutt's Voltaire, a glorious blaze of colour. Mr. Forsyth had some good plants not for competition; among them was Golden Trilby and Mrs. Holbourn, the latter a perfect gem, that will evidently cut well; another brave feather in the cap of Mr. Salter, who sent it out last year for the raiser, Mr. Wortley. Mr. Forsyth's Golden Christine was the best we have seen this season. In the class for twelve cut blooms, Mr. Hutt was first, with Queen, Alfred Sultan, Pearl, Goliath, Yellow Perfection, Fabius, Nonpareil, Plutus, Aimée Ferrière, Dupont, Lutea formosa, and Stellaris globosa. The succeeding names stood in order thus:—Hutt, Bolton, How, Allen, Pratt, Bolton, Vile (equal 7th), Scarrott. In the sixes, Mr. Robinson was first, with Plutus, Formosa, Beauty, Cassandra, Dupont, Marshal Duroc; Mr. Allen, second; Mr. France, third. In anemones, Mr. Hutt was first, Mr. Butt second, Mr. Scarrott third. Among the miscellanies, there was a fine plant of Golden Queen, and four different sports of Trilby, some good collections of flowers, cut as grown, with foliage attached, and a number of well-grown standards.

Stoke Newington, *Nov.* 14.—Spite of the ungenial season, the Manor Rooms wore a gay appearance, and though the tables were not crowded, the contributions were good, and every way worthy of critical inspection. There were two tables filled with cut flowers, two rows of large plants in pots on one side, a bank of pompones at the back, and on the other side a grand set of large plants from Mr. Wiggins. The first prize for large plants went to Mr. Ward, second to Mr. Wiggins, with the same plants as described in the above notice of Crystal Palace show. Mr. Ward had the best single specimen, Mr. Hook second. In pompones, Mr. Ward came first, with six perfect convex plants; Mr. Wiggins second, with six immensely large flat-trained specimens, and Mr. Hook third. The best single specimen was from Mr. Wiggins, the second best, Mr. Ward. Among the cut flowers, the awards were—best 24, Mr. D. Monk, 2nd, Mr. S. Monk; 18, 1st, Mr. D. Monk, 2nd, Mr. S. Monk and Mr. Merry equal. Mr. Bowman had the best 12, and among them, the best Beauty and Goliath we have seen this season. A stand of twelve Triomphe du Nord, from Mr. Bird, was very attractive, owing to its peculiar shade of red and symmetrical outline. Mr. Bird also exhibited his seedlings Lady Mayoress and Garibaldi. In the maiden class Mr. Hook was the winner. In addition to the chrysanthemums, there were a few ornamental plants supplied for decoration by Mr. Shirley Hibberd, the president of the society. Among them a fine Bamboo, a pair of Golden Thuias, Pinus cembra, Chephalotaxus Fortuni, Abies orientalis, etc., etc. Also a few exotic ferns from Mr. Chitty.

Brixton Hill, *Nov.* 19.—This was the first exhibition of the newly-formed society. As a beginning there was nothing crude about it, rather a remarkable degree of finish and excellence, and the residents of the district being fresh to such affairs, it was as attractive to uncritical visitors as it was worthy of the most patient professional examination. We enjoyed this as much as any show we have attended for a long time, and our hope is that from good the society may go to better, in honourable emulation to attain to the best. The show was not confined to chrysanthemums; there were plenty of superb furnishing plants, primulas, and fruits, and if the admission had been half-a-crown, instead of a shilling, we believe it would have been as well attended. Mr. Glover took the lead in plants, with Golden Cedo Nulli, Alfred Salter, Hermione, Queen, Christine, and Annie Salter; but it was a

mistake to put up the first of them. Mr. Monk came second with Queen, Alfred Salter, Aurora, Golden Queen, a charming plant, Albin, and Annie Salter. Mr. Webb was third. For the best plant (extra) Mr. Webb was the winner, with Golden Queen, admirably done, and the flowers very compact. In the class for three plants (large,) Mr. Glover was first, with Arigena, Christine, and Etna; Mr. Webb, second; Mr. Harper, third. Mr. Monk had six fine pyramids: they were Brilliant, Boule de Neige, Helen, Golden Cedo Nulli, Canrobert; the first is not good for the purpose. In single plants, the names were—1st, Harper; 2nd, Weston; 3rd, Monk. Mr. Harper's Golden Cedo Nulli was superb. In pompones, the winners were—1, Weston, with Cedo Nulli, Canrobert, Helen, Drin Drin, Giraldo, Alveoleflora; 2, Glover; 3, Howes. Cut blooms were shown in large numbers: in twenty-fours, Mr. Monk came first, and Mr. Weston second; and in the class for twelves, Mr. Glover first, and Mr. Monk second. The stands included fine blossoms of Queen, Nonpareil, Alfred Salter, Hermione, Aimée Ferrière, Vesta, Arigena, Christine, Trilby, Golden Queen, Novelty, Leon Leguay, White Formosa, Marshal Duroc, Dupont, Goliah, Albin, Themis, Beauty, Golconda, Versailles Defiance, Stellaris globosa. The Amateurs' twelve was well contested, and Mr. F. Faulkner placed first; his Aimée Ferrière was excellent; Mr. Cook came second. For six cut blooms (amateurs), Master J. Monk was first, with a pretty lot, consisting of Goliath, Alfred, Salter, Queen, Dupont, Themis, and Aimée Ferrière; Mr. F. Faulkner second. Some of the stands of anemones were very good; Mr. Harper first; Mr. Faulkner second; Mr. Fiveash third. The show of primulas was highly creditable to the neighbourhood, and three prizes were awarded for collections of eight plants—1, Weston; 2, Fiveash; 3, Webb. Mr. Clark, the nurseryman, also sent a beautiful lot, not for competition. We regret we cannot make space to enumerate the miscellaneous plants, most of which were supplied by Mr. Rowes. Among them was a fine Platycerium, and in Mr. Harper's lot was a splendid plant of Adiantum cuneatum. The fruit was arranged in a separate room. The best four dishes were from Mr. Cattermole, and consisted of three melons, Brown's Perpetual, Stotter's Green Flesh, and Windsor Prize; Coe's Golden Drop Plum, and some apples. Mr. Monk was second, with an Enville pine, Ribston pippins (rather small), and Chaumontel pears. Mr. Cattermole was also first for white grapes; Mr. P. Faulkner second. In black grapes the awards were the same, and both showed Black Hamburgs. Pines were not put up in any number; Mr. Monk took first prize with an Enville, weighing 5 lbs. Pears, (flavour), 1st, Mr. Howes, with Marie Louise; 2nd, Mr. P. Faulkner, with Callibasse. Callibasse also won for weight, as shown by Mr. Brazer. Dessert apples and collections of fruit were generally in good condition, and the leading exhibitors were Messrs. Brazer, P. Faulkner, Hall, and Porter. We shall look forward to our next visit to Brixton with some agreeable anticipations, and we could wish that a similar spirit and departure from the rule of old custom would awaken the interests of the horticulturists on the opposite side of the Thames.

Shows still Open.—Owing to the lateness of the season and the mildness of the present weather, the public exhibitions of chrysanthemums are only just now coming to their best. Mr. Salter's show at Hammersmith is still open, and is a most attractive and interesting affair. Mr. Bird, Green Lanes, Stoke Newington, has his show-house tastefully stocked with an immense variety of well-grown plants, and numerous seedlings, now in their first blooms. Mr. Dale and Mr. Broome still hold their levées at the Temple. Mr. Dale's plant of Mrs. Holbourn is a picture, which every grower of the chrysanthemum should see, and his mode of managing pompones in beds is the best example of such practice to be seen in or about London.

THE RICE-PAPER PLANT.

That beautiful and delicate substance called rice-paper, was for years known in this country before we had any information as to the plant by which it was produced, or the mode in which it was prepared; its very name denotes our ignorance. By the perseverance of Sir Wm. Hooker, the indefatigable director of the Royal Botanic Gardens, Kew, the point was at length cleared up, and in the "Journal of Botany" for 1850 we find the first authentic information on the subject. In a letter from J. H. Layton, Esq., H. B. Majesty's consul at Amoy, China, we find that "the substance commonly called 'rice-paper' is made by the Chinese from the pith of a plant or tree, which grows principally in the swampy grounds, in the province of Sam-swi, in the northern part of the island of Formosa, where it is said to form large forests. The bark and rind are, previous to exportation, stripped from the pith, which is then called Pook-shung. A large heavy knife is used in cutting the rice-paper. The knife being kept quite steady, the cylindrical pith is moved round and round against the edge of it, which is just inserted into the substance, and thus a leaf or sheet is formed resembling the most delicate paper, but rather thick in substance.

"Rice-paper is the material upon which the Chinese artists execute their most finished paintings. It is largely employed in the manufacture of artificial flowers, and the chips and fragments are used in medicine in the same way as Epsom salts."

In 1852 the living plant was introduced, and until lately has been one of the rarest of stove plants. But, within the last year or two, it has flowered, and produced good seed; and it has also been discovered that it can be rapidly propagated by pieces of the root, so that it is becoming more plentiful, and the price consequently, much less.

Aralia papyrifera, the rice-paper plant, usually runs up with a straight stem, ten, twelve, or more feet in height, and bearing at the apex a crown of some eight or ten large palmate leaves, two and a-half feet in diameter; these are similar in form to those of the well-known castor-oil plant. The individual flowers are very minute and inconspicuous, but are produced in such immense numbers that the plant, when in bloom, has a very imposing appearance. The compound panicles, of which three or five are generally produced at once, are usually three feet in length. The young wood, leaves, and foot-stalks are covered with a rusty-coloured kind of woolly substance, which, when examined under the microscope (for which purpose it makes a very pretty object), it is found to be composed of minute hairs, arranged in the form of a star.

Our object in drawing attention to this plant is to show that it is usually kept in too strong a heat, and to point it out as a great addition to our out-of-door ornamental plants during summer. While kept in the stove, it was always considered a very troublesome plant to keep clean. Insects of all kinds were fond of the plant, and found good shelter in the woolly covering of the leaves, and among the stipules and bracts at their base; but this inconvenience is greatly reduced if the plant be grown in a cooler atmosphere. I would recommend that the young plant should be pushed on rapidly until it has attained the height of about two feet, then keep it comparatively dry and dormant in some warm corner of the greenhouse during winter. Start it into growth early in the spring, either in a hot-bed or in the stove or vinery; and as soon as the nights become warm, plant it out in some sheltered nook on the lawn. If the soil be rich, and if, during dry weather, it obtains a little assistance in the way of weak manure-water, it will well repay the trouble bestowed upon it. Those who have duplicate plants might try the experiment of leaving one of them out of doors during winter to prove its hardiness. A specimen of it, which was planted out near London last summer, was somewhat carelessly taken up in the autumn, some of the large roots were broken off and allowed to remain in the soil; this spring they all made separate plants, and started up freely. We all recollect what the winter of 1859-60 was—what might we not expect, therefore, under more favourable circumstances? Whether it prove hardy or not, we have at least found in the rice-paper plant a beautiful addition to our fine foliage plants for the open air in summer.

HARDY BULBS.

CULTIVATION OF THE HYACINTH.

In glasses.—Nearly all hyacinths are suitable more or less for cultivating in glasses, though, in making a selection for that purpose, a larger number of *single* varieties should be chosen, as the certainty of success is much greater with them than with the double kinds. In ordering, special care should therefore be taken to state for what purposes the bulbs may be required, that proper varieties may be selected. The selection being always made by persons who well understand them, if such care be taken and the directions stated below followed out, there need be no fear as to the successful result. It is the natural tendency of all roots to grow downwards, avoiding the light, consequently dark-coloured glasses are preferable for the growth of hyacinths.

Let the bulbs be obtained as early as possible after their importation, though the time of putting them to the water may range from the middle of September to the end of November, the earlier however the better. Fill up the glasses with soft clean water till it barely touches the bottom of the bulb. Then stand them in a *dark* cool cupboard or cellar for at least a month, to encourage the roots to form plentifully before the bloom buds appear. Examine them occasionally whilst in the dark, and carefully remove any part that may be decaying, at the same time not injuring the young roots. Should the water become foul change it, but not otherwise.

When the buds and leaves have made a little growth, they should be brought into the full light of a window; if in a room where a fire is kept, let them stand in the window *farthest* from the fire; a cool place is the best for them. *Never under any circumstances allow them to stand on the mantel-piece*, a practice often followed, but highly improper.

As the flower head rises, a support should be applied; these should invariably be ordered with the glasses, in order that they may be at hand as soon as required.

When coming into flower, a little stimulant may be added to the water with advantage. Sulphate of ammonia will be found to add considerably to the intensity of colour in the flower, and also to the vigour of the plant—a small pinch between the thumb and finger just dropped into the water will be sufficient.

In pots.—The soil should be rich, and not over light; good loam and leaf-mould, with about one-fourth of well-rotted manure, and a liberal addition of sea, river, or silver sand, would be a good compost. For one bulb, pots five inches in diameter at the top should be used; three or five bulbs may be planted in one large pot or pan together with good effect.

Let the pots be *well drained*, and the soil and bulb placed in *firmly*, but the bulb not quite covered. When potted give a good watering, and plunge them in any out-of-the-way place out of doors, covering them with a layer of spent tanner's bark or coal-ashes to the depth of three or four inches above the top of the pots. Here they may remain till they are required, bringing them into warmth and light according to the time they are intended to flower—the less forcing they have, however, the finer the flower is likely to be. When brought into a room let them be stood *in the window*.

All hyacinths succeed well, and come to their greatest perfection, when grown in pots.

In beds.—The soil for this purpose should be rich, light, and deep, and above all, *well drained*. Excavate to the depth of fifteen inches, level the bottom, and place on it a layer of two inches of small stones, or any similar material that will serve to insure good drainage. On this lay a thin covering of well-decayed manure, and then fill in with the prepared compost, making the bed four or five inches above the surrounding soil to allow for settling.

Arrange the colours according to taste, and plant the bulbs nine inches apart, and three inches deep from the crown. The time of planting may range from the beginning of October to the middle of November.

It will be found advisable, as very severe weather approaches, to cover the bed with a layer of any protecting material.

THE TULIP.

In beds.—Prepare the bed in a similar way as recommended for the hyacinth. In planting, let the soil of the bed be levelled; then, with a hoe, draw drills about eight inches apart and two inches deep, and plant the bulbs at the bottom of the drills, each five inches apart, giving each a gentle pressure. Cover up the bulbs by the aid of a short-toothed rake.

If the situation is low and damp, it would be advisable to raise the bed six or eight inches, to insure good and perfect drainage, which is absolutely essential to success in cultivating the tulip. Tulips should be planted as early as convenient in November; the early kinds in October, if possible.

In pots.—Tulips suited for pots should be planted in October, or if required for early forcing, in September. Plant from three to six bulbs in a pot, and treat in a similar manner as recommended for the hyacinth.

Tulips, either for pots or beds, are amongst the most showy and effective of spring bulbs.

THE CROCUS.

In open air.—The crocus will succeed in almost any garden, but delights and thrives in a dry situation and a rich light sandy soil. They should be planted in September, or at the latest in October, each bulb three or four inches deep, and in beds, clumps, concentric circles, or "ribbons," with colours contrasted or mixed, according to taste.

For in-door culture, the first thing of importance to be attended to is, that the bulbs are planted in good time, as early as convenient in September. From six to ten bulbs in a pot will make a good display, and these may be mixed or in separate colours, according to taste. Let them be placed out of doors until Christmas, when they may be brought in, but should have all the light and air given them that circumstances will admit of. When they begin to show for bloom they may be brought into the sitting or drawing-room, where there may be a fire, but placed near the window, and the result will be a fine display. If more convenient or desirable, being constantly kept in the greenhouse or dwelling-house will answer equally well, provided it be cool, light, and airy; but disappointment often arises in connection with the growing of this flower, from their being placed in a warm room from the time of potting, and the consequence is, the foliage is drawn up to a great length and the bulb produces no flower.

THE RANUNCULUS.

In beds.—The soil should be retentive of moisture. If the natural soil of a garden be unfavourable, two-thirds of the top spit of a pasture of rather heavy and tenacious qualities, mixed with one-third decayed stable-manure, will form an excellent compost for the main depth of a bed, the top consisting of about two inches of the loam only. The bed should be made about fifteen inches deep. Whatever manure is used, it should be so decomposed as to appear like black powder.

The season for planting is the early spring — some time about the end of February is generally the best. First rake the surface of the bed, and with a hoe make drills an inch and a-half deep, and five inches apart. Plant the tubers in these drills four inches apart, pressing them in firmly; then level the bed in the usual manner.

In very severe weather, a covering may be found necessary for the bed. To effect this, fix hoops across three or four feet apart, with rods running transversely; mats thrown over such a framework will serve well for shelter, and also as a screen in very sunny weather when in bloom. Beware, however, of sheltering *too much* in early spring—too much covering is more injurious than too little.

In pots.—The strong growing sorts will in this way produce fine blossoms. Plant two or three roots in a seven-inch pot, in a soil composed of a moderately light loam, to which may be added a sixth part of leaf-mould. If *early* flowers are wanted, plant in October, and plunge in ashes in a cold frame; if otherwise, plant in February, and plunge the pots to the rim in a warm border. Shortly before flowering, the pots may be taken up, and placed where they will be sheltered from the midday sun.—*Hooper and Co., Covent Garden.*

A PORTABLE GREENHOUSE.

In the September Number of the Floral World is an article upon portable greenhouses; and as you appear to think a really portable house a thing much to be desired for holders of short leases and tenants at will, I beg to give you a description of one I had built to my own instructions, five years ago, and which answers the purpose admirably. I had it set up and in use twelve months in Newcastle, and at the end of that time I removed, had my greenhouse taken down and carefully packed,

up; hired a truck from the North Eastern Railway Company, and had the house and twelve dozen of plants safely carried a distance of sixty miles for 25*s*. I had it immediately set up here, and since that time I had occasion to remove it to a different situation in my garden—a feat which was accomplished by twelve men in a few minutes, without unscrewing a nail. We put three spokes under the base of the house on each side, six spokes in all, and two men at each spoke carried it to its new site with ease and perfect safety. The house is twelve feet long and eight feet wide within; the side-lights five feet high from the base, and an elevation of roof of three feet, which makes eight feet from the floor to the top of the roof inside. Two inches are left open between the head of the side-lights and the top beams for ventilation. This is covered from view by the spouts outside, and I have ventilators upon hinges inside to open or shut at pleasure. The under part of the doors are of wood panels, the upper parts glass, which swings upon pivots, and these with the side openings give plenty of ventilation. I have two tables or flower-stands, two and a-half feet wide, laid upon brackets two and a-half feet from the floor, and a three-feet walk up the centre, at the head of which I have a tank which is supplied by two small lead pipes from the roof, and from which I have an escape pipe to a drain outside, and this box makes a very nice seat. Around the side-posts and end-posts I have ornamental brackets for trailing plants, and I have a slight shelf about four inches wide, about six inches from the top of the side-lights, and another of the same round the base.

I have prepared soil under the tables for striking cuttings, and here I can stow away a great number of bedding plants during winter. My tables have sides about four inches deep, and I keep about two inches deep of small gravel under the plants, which is both ornamental and useful. I have the blinds hung inside, and altogether my little house is very neat, and answers every purpose for which it was intended admirably. I have it heated with hot water, a two-inch pipe, and a boiler to hold about a gallon of water. The boiler is placed at one corner of the house, about a foot under the surface, and a tiny flue built over it, and a galvanized iron funnel, four inches diameter, is quite sufficient, as I use coke. Whilst in Newcastle I had the water heated with gas, and a two-inch pipe carried off the smoke.

Thus, for a matter of twenty-five pounds, a gentleman can have a greenhouse sufficient at least for his amusement, and which he can remove as he does his piano.

P. K. L.

Cotherstone, Barnard Castle,
Oct. 16.

REPORT ON ANNUAL STOCKS

GROWN FOR TRIAL AT CHISWICK BY THE HORTICULTURAL SOCIETY.

A LARGE number of varieties of this favourite flower (Matthiola annua) was contributed for comparison at the garden by the undermentioned seedsmen:—Messrs. Carter and Co., Holborn; Mr. W. Thompson, Ipswich; and Mr. C. Turner, Slough. Those sent by Mr. Thompson being mixed varieties, though of good quality, are not enumerated below.

Notwithstanding the unfavourable season, a very good bloom was obtained. It was found, however, that so little fixity of nomenclature or even of classification had been hitherto attained, that a detailed report would have been altogether useless; and the committee came to the conclusion that its attention might be most usefully directed towards making an effort to remedy the evils just referred to, by endeavouring to group the various forms into definite sections. The groups that have been adopted may, it is hoped, be approved and employed by English growers; and when the groups themselves have become generally recognized, it may be found possible to apply fixed names to such individual varieties as are of choice quality, in order to admit of their being recognized and purchased with something like certainty. This, at the present time, it must be considered as almost hopeless to attempt to do.

The seeds were in this case sown on April 9th in frames. The plants were "pricked out" and hardened off in the usual way, and were finally planted out for flowering on a prepared south border. They were examined and reported on during the first and second weeks of August, while in the height of their bloom.

The classification proposed for the various kinds of annual stocks, which were the only ones brought under the notice of the committee, is as follows:—

§ 1. *Ten-weeks' or German.*—In this group the plants grow about a foot in height; the habit is dwarf, compact, and branching below; and the inflorescence consists of a longer central spike and shorter lateral ones. The choicer kinds in the collection, falling under this head, belong to two subdivisions, one of which has been called by the seedsmen "large-flowered," in contradistinction to those in which the blossoms are of the usual or average size. The most desirable of the kind were:—

(*a*) *Flowers of usual or average size.*—Dwarf White (Carter), white; Red Brown (Carter), dull deep brownish-red or chocolate, Carmine Dwarf (Carter), light rose-colour; Dark Violet (Carter), deep violet-purple; Chamois (Carter), pale coppery-pink; Flesh-colour Dwarf (Carter), pale blush.

(*b*) *Flowers above average size.*—Dark Blue (Carter), a kind of reddish-purple; Light Blue (Carter), pale purple or bluish-lilac; Carmine (Carter), light rose-colour; Rose (Carter), deep rosy-pink or peach-blossom; White (Carter), white, tolerably pure; Crimson (Carter), rather deeper rose than the sort called Carmine.

§ 2. *Dwarf Ten-weeks'.*—This group has the habit and characteristics of § 1, but the plants are dwarfer, averaging about nine inches in height, and they are also more branched. The variety sent as Dwarf Crimson was considered to be one of the finest and most useful varities in the whole collection. The best varieties were Dwarf Crimson (Carter), the same as New Dwarf Crimson (Turner), bright rosy-crimson, dwarf and free-blooming; Rose hybrid (Carter), pale rose blush; White hybrid (Carter), French white; Light Blue (Carter), pale bluish-lilac; Flesh-coloured Miniature (Carter), pale blush; Chamois (Carter), pale pinkish-buff..

§ 3 *Branching or Pyramidal Ten-weeks'.*—The plants in the varieties referred to in this section are taller than those in § 1; they attain an average height of a foot and a half, and they are also more diffusely branched. Among the annual stocks they are at once distinguishable by their height and more loosely-branched appearance. It is to this group that the term "intermediate," applied to several distinct forms, seems properly to belong. The variety called White Branching proved to be remarkably fine: certainly one of the finest in the collection. The most worthy of notice in this group, of which there is also a "large-flowered subsection, were:—

(*a*) *Flowers of usual or average size.*—Victoria Scarlet (Turner), very high-coloured rosy-carmine. It is suggested that the term "scarlet" should be altogether discontinued in describing this class of colours, and the word "crimson" substituted. Bright Crimson Branching (Carter), bright rosy-crimson; White Branching (Carter), very pure and fine; Light Blue (Carter), pale purple or bluish-lilac.

(*b*) *Flowers above average size.*—New Pyramidal Scarlet (Turner), the same as Light Carmine Branching (Carter), light rose-colour.

§ 4. *Bouquet.*—The chief characteristic of this group, represented at Chiswick by one variety only, consists in its excessively-branched dwarf-habit of growth. The plants form a compact flat-topped bush, about nine inches in height, everywhere branching repeatedly, and all the little branchlets showing flower-buds; there is, consequently, a great number of undeveloped flowers, and this, together with a want of brilliancy in the colour, renders the variety much less effective than others of inferior habit. It was called Dwarf Crimson (Turner), very free, the colour a rosy-crimson, somewhat dull, the undeveloped buds and centres being greenish.

§ 5. *Miniature.*—This section also was represented by one sample only, and may not prove constant. The plants are very dwarf, not more than six inches high, having a short, dense, unbranched flower-head, seated closely upon the compact tuft of leaves; Lazuli Blue (Carter), pale lilac or French white.

§ 6. *Spike-flowered.*—These were sent as Miniatures along with the variety referred to § 5. They are, however, of a different habit, being taller, growing about a foot high; the stem is almost simple, the few branches being very short, setting close to the main stem, and producing a spike-like inflorescence. This, as well as § 5, may be inconstant, and of doubtful character. The best varieties were Dark Blue (Carter), deep reddish-purple; Carmine (Carter), light with greenish centre, which does not open well.

§ 7. *Wallflower-leaved Ten-weeks'.*—This group has the characters of § 1, but the leaves are glabrous instead of hoary. There is no other material difference. The following were very handsome varieties; indeed, that called Dwarf Crimson was one of the earliest, richest-coloured, and most enduring varieties in the whole collection. Dwarf Crimson (Carter), bright rosy-crimson; Sulphur (Carter), pale or creamy-yellow, the single-flowered plants being white; Carmine (Carter), light rose; Flesh-colour (Carter), pale blush; Poppy-gray (Carter), pale lilac.

§ 8. *Branching Wallflower-leaved.*—This group has the character of § 3, but with the leaves glabrous as in § 7. The only variety in the collection referable here, and this of good quality, was Light Blue (Carter), pale blue or bluish-lilac.

§ 9. *Spike-flowered Wallflower-leaved.*—This has a narrow unbranched or very shortly-branched spike-like inflorescence, similar to that which occurs in § 6. The variety mentioned below was distinct and handsome. White Wallflower-leaved (Carter), white, dwarfish, and compact.

The varieties mentioned above under the names of Dwarf Crimson (§ 2), Victoria Scarlet, and White Branching (§ 3), Dwarf Crimson and Sulphur (§ 7), and White Wallflower-leaved (§ 9), are stocks of first-rate quality, and highly-deserving of general cultivation.

THE COLD PIT.

The conservatory, the greenhouse, the stove, and the orchard-house, admitting, as they do, of an endless variety of form and feature, present a never-failing source of pleasurable industry to the patrons of the floricultural art; and, judging from the rapid increase of these structures, they appear to stand high in public favour, more so among amateurs than the cold pit, which also has advantages not possessed by the others. A greenhouse or orchard-house may be built where a cold pit would be out of place, and may be adapted to its peculiar purpose or position; yet, where the situation is favourable, the latter may be regarded as second to none in real utility, especially in furnishing matter for the table, as many a delicious early crop of asparagus, potatoes, carrots, etc., can attest. Indeed, it is in this way that the true merits of the cold pit become prominent, many have loudly exclaimed against it as being troublesome and fallacious, because they have failed to make it answer all the purposes of a greenhouse, and know not its real use; for, although the purposes to which it is applicable are numerous, and greenhouse plants may be kept in it during the winter with moderate care, yet the cold pit is best adapted to bringing to perfection in the spring time such crops as do not come to perfection before the summer when out of doors, as growing early salads, as they become more tender and better flavoured for the protection; or to winter cauliflowers and lettuce plants, or any plants that are not quite hardy, or are the better for a slight protection, whether in pots or otherwise. If the cold pit is kept to such purposes, there will be no fear of disappointment as to results. Of course this is speaking merely with regard to the colder portion of the year. During the summer, cucumbers, melons, mushrooms, etc., may be grown in the cold pit; tomatoes, capsicums, and such like do well there; or, in the floral way, cockscombs, globe amaranths, and all tender annuals may be cultivated to perfection, retaining a more dwarf and stocky habit than when grown in the greenhouse; in fact, the many purposes to which it may be applied are better suggested by local circumstances than by being enumerated here.

A pit of the most convenient dimensions for general use would be about six feet from back to front, to stand three feet six inches high at the back and two feet in front; the length to be from six to twelve lights, each of these to be three feet six inches wide, and of a length to reach the middle of the back and front plate; neither plates nor slides to have square edges, but rounded off, that there may be less chance of water resting on them. This should be built in a well-drained situation: if the soil is naturally retentive, the whole space to be occupied by the pit should be dug out to the depth of two feet, a drain laid through it, and then filled up with coarse ballast. Where the walls are to rest, this should be well rammed down, and a layer of concrete placed thereon; where this is done, it is unnecessary to carry the brickwork below the surface. A nine-inch layer of bricks should be first laid, and, if well put together, four-inch brickwork is sufficient for the walls. When the plates are on, they should be kept in place by iron clamps, which should descend the whole depth of the brickwork. It is often found convenient to divide the pit into compartments of two or more lights each, by means of brick partitions.

A builder who considers his own credit and his employer's satisfaction, as much as deriving an exorbitant profit from the transaction, ought to build a pit of this description for ten pounds, more or less, according to length. Many attempts are made to substitute turf for brick in building the walls. Now, whatever may be the case in country places, where bricks and mortar are not so readily obtainable, it cannot be considered a saving near London to build with turf, which is apt to crumble, and to which it is difficult to fix the plates firmly; nor is

it any saving in the long run to use boards, for though the walls may be made of any thickness afterwards by banking earth round the pit, such walls are anything but durable, although in other respects they are effectual. But a pit, as above described, if the woodwork is kept in repair and well painted, may last time out of mind in continued use, and year after year produce salads, fruit, and vegetables for the table, or plants and flowers for the garden, the conservatory, or the drawing-room.

The mode of producing early salads and vegetables has been so often described, as to render a repetition almost worthless among the readers of garden literature; but it will scarce admit of a doubt that, however stale the description may become, the real fact of having them will always be a fresh and agreeable affair. In this, as in all else connected with gardening, new ideas are always acceptable, and great improvements are obtained by careful attention to causes and their results.

It is a common fault with beginners to exhibit a want of patience, and many a batch of roots have been destroyed through placing them on the fermenting material before the rank heat has subsided; and even if it is allowed to do so, the additional weight of nine inches or a foot of earth, as in planting asparagus or seakale, will often cause the heat to rise stronger than ever. This should always be provided against, or the destruction of the roots will cause both a loss and disappointment. For wintering cauliflowers and lettuce-plants, or for carrying dwarf crops, as spinach, endive, etc., through frosty weather, or sowing radishes or what not, it is merely necessary to fork up the surface soil after cucumbers or melons come off. Strawberry plants, too, may be planted into the same; they will bear as well, if not better, than in the open ground, and a month earlier. Violets treated in the same way will yield a profusion of blossom in March and April. Bulbs and many herbaceous plants that are the better, or come into bloom earlier, for a little protection, do well in the cold pit.

In the case of more tender plants, such as bedding stuffs, cinerarias, etc., which require protection from frost, they may be and have been kept in abundance in a cold pit, and come out in the spring as strong and healthy as those wintered in a greenhouse; and this in spite of many gardeners, who ought to know better, speaking of it as an impossibility. The fact is, those who regard it as such do not guard sufficiently against damp, keep the pit shut up when it should be open, and, above all, if frost continues for a week or a month, they keep the covering on the whole time. Now, if the litter or mats are left on the glass, and frost continues for a week, it penetrates deeper and deeper every night till the plants become frozen; whereas, had the covering been removed every day and thrown on afresh, the frost would have the same depth to go through every time, and would never reach the plants, providing the litter or mats on the walls be thick enough; and it must be a very sharp frost to go through a foot of either. F. Chitty.

SPERGULA SAGINOIDES.

In the correspondence which has taken place in regard to Spergula pilifera, all that has been said against it as a lawn or carpet plant comes to this—that, like all other plants, you can kill it if you are bent on doing so, but even then it is not an easy matter. Planted in a wet hollow, and covered with water for weeks together, it survived and grew, and proved its merit by its beauty. On trashy London mould it has made charming verge lines in one season. Three times transplanted; first, because it looked yellow when the frost caught it before it was established; next, because it made the adjoining grass look poor by comparison; and next, for mere whim, it started away at last and did what was wanted of it most obediently. Some who pronounced against it confess to having got it up in heat, and then coddled it under glass, till its hardy, fresh air-loving constitution was broken; and others wanted it to make a turf instanter, on worn-out, hot, sandy, or chalky soil, and it failed through lack of skill and lack of patience. After all, patience is the chief virtue for those who plant Spergula pilifera. It must have time; it will not come so quick as grass, that is, to make so close a turf, simply because we cannot sow it broadcast by the bushel. Some day, when the seed is dirt cheap, we may be able to do that, and then Spergula turf will be possible with less patience than at present. But one grave objection, and only one, has been urged against it, and that is, that when in bloom it has the appearance of a lawn awfully foul with

daisies. It is true that from the middle of July till the middle of August it produces myriads of lovely little white blossoms. But the appearance is very different to that of a daisied lawn; the blossoms are smaller, more numerous, and look more like a fall of sleet than a sprinkling of daisies; and this fall of sleet may in some cases interfere with the colouring of flower-beds, and for a few weeks be objectionable on that ground. In any discussion it is best to admit as much as you can of the arguments used by the other side, and in the defence of Spergula pilifera this is all I am disposed to admit; and I apprehend it does little to weaken the claims of the plant to general adoption for out-door carpets. My circle of Spergula is not in the best place for such an experiment; it is close to the house, it is under the shade of an immense robinia, has walls on each side within a few yards of it, and yet it has thickened now into a close and elastic felt, and is as smooth as a billiard table. I do not trust wholly to my own opinion as to its excellence. It has been seen by Mr. Veitch, Mr. Chitty, Mr. Oubridge, Mr. Cole, Mr. Cutbush, Mr. Holland, Mr. West, and a vast number of gent'lemen gardeners, whose judgment in such matters is as ripe as that of most professionals, and they all say it is a triumph. I have made up my mind to the same verdict. It is a triumph, and those who hold back in doubt only defer the enjoyment of a new pleasure. I suggested in a former note on the subject that possibly Sagina procumbens and Spergula saginoides might be turned to account for the same sort of work. I have planted a small patch of Sagina inside a little semi-circular rockery in a rather damp position, and it looks as if it would not be long in constituting itself a respectable feature. But Spergula saginoides has been well proved by Mr. Summers; and if he does not offer it as a companion plant to the original, he will be like one who has put his hand to the plough, and then turned back. I saw this Spergula when I called last at Forest Hill; its growth is somewhat different to pilifera, and for certain hungry soils it will probably supersede it. Spergula saginoides is a British plant, and therefore no difficulty can arise in its culture as to climate. It is almost as abundant in Scotland as the renowned heather, and a companion plant of the heather on mountain slopes and rocky hollows. During winter this preserves its bright green hue unhurt by frost or damp, and it is a shade darker in colour than pilifera, and, like it, produces myriads of starry, snow-white flowers, only half the size of those of pilifera. But its distinctness as regards adaptation and culture arises out of the fact that it is as much at home on sand or gravel as pilifera is on heavy loams or clay. In all other respects what has been said of one holds good as to the other. Lawns are quickest produced by planting tufts, and the more the tufts are divided the greater is the economy, and a close turf may be produced just as quick by planting pieces an inch across, four inches apart, as by using tufts as big as one's hand, at the same or greater distance, because it is only on the circumference of each that it can make lateral growth. Saginoides is as fond of the roller as pilifera, and the firmer the ground is kept after the first dressing the faster will it grow. As a proof of its vitality, I may mention that Mr. Summers sent me a scrap of the plant in a letter in June last. It lay on my table three days; I then cut it up, dibbled it in some sandy stuff in little bits, about the size of pins, in a five-inch pot, put a bell-glass over, and every one rooted. There is now, therefore, a choice of two distinct plants for those who are disposed to venture on a new idea in the formation of lawns, bowling-greens, and verdant ground-work for geometric gardens, and the chances of final success are by the proof of S. saginoides, as two to one upon what S. pilifera had previously brought us to. SHIRLEY HIBBERD.

A GERMAN FRUIT-ROOM.

Two kinds of fruit-rooms should always be provided, one for summer and another for winter fruits; for that which would be suitable for the pear would not answer for the strawberry: the former must be kept in a dry, dark room, where the air has but little access; but the strawberry should be laid in a place like a larder, cool and airy.

The winter fruit-room requires greater care in its construction, and is much more expensive than the summer one. The cost of erecting and fitting up a winter fruit-room in as complete a manner as might

be desirable would cost about £150; but a very good one may be constructed for less money. A room on the basement or on the first floor may be chosen, with only a door and window to the south or east. It is important that it should be large enough to admit of the fruit being properly laid out; and that it should be free from damp, and not liable to great and sudden changes of temperature: the latter should be maintained, as far as possible, between 41° and 48° Fahrenheit. The window and its shutter should be made to fit perfectly close, in order that neither mice nor air can have access.

If the room is square and sufficiently wide, fruit-shelves may be put up all round; and in the middle, a series of round turning stages, 2½ feet in diameter, supported above each other at a foot apart. The boarding for the shelves must be sound, dry, and planed smooth. When got up they must be furnished with a small ledge to prevent the fruit from rolling off. For constructing one of these turning pyramidal stages, take a piece of square timber about four inches on the side, but rounded at each end, and pointed with iron. To the four sides of this upright post let horizontal pieces be fixed about a foot apart, for the support of the circular shelves, which should be hooped with tin or zinc. When these are secured to the upright post, the pyramid resembles an upright shaft or axle with numerous horizontal wheels. The pivot ends of the shaft are so fitted into copper sockets, which are fixed in the floor and top of the room, as to admit of the shaft with all the circular shelves attached being turned round with the slightest touch. In consequence of the facility which this arrangement affords of turning round the shelves, there is no necessity for going up and down a ladder in order to shift it from place to place when inspecting the fruit. By means of two hooks which catches against an iron stay at top, the ladder is secured in a position that enables a person to reach the whole of the fruit, by turning round the shelves, without moving the ladder.

Before the fruit is brought in, the wood-work of the room should be thoroughly washed and well aired. The shelves should then be covered with a layer of perfectly dry moss or sawdust.

The fruit should be carefully sorted. That which ripens first should be placed in front, and the side of the fruit which has been exposed to the sun's rays should be placed uppermost in order that the ripening hue may be more easily observed.

When the fruit is all taken in and placed on the shelves, it should be covered with thin paper in order to protect it from the air and dust. During the first three days, if the weather is fine and dry, air may be given for one or two hours in the middle of the day. After three or four days the fruit must be kept shut up and in the dark.

Should the fruit become so covered with moisture as to endanger its sound keeping, recourse may be had to muriate of lime, which may be placed in any corner of the fruit-room. When, in consequence of attracting the moisture, the muriate of lime becomes liquid, it may be dried by heat and used again. Sulphuric acid, in an open jar, may be employed for the same purpose, and when the acid has attracted moisture to the extent of saturation, a fresh supply of the substance must be introduced.—F. C. Willermoz, *Taschenbuch für Pomologen, Gärtner und Gartenfreunde, Stuttgart*, 1860.

GLADIOLI.

No one who attended the Crystal Palace on September 19th, 1860, can forget the magnificent display of gladioli, the finest show of this flower that has ever taken place in England, and perhaps in Europe; for, though a French introduction, at this exhibition the English flower, and English seedlings, too, carried off the palm.

One great recommendation to the cultivation of gladioli is, that they flourish in poor soils. In the poor heath sand of Bagshot, Mr. Standish grew the guns of the exhibition. This was the soil that grew the first prize. On turning to that gentleman's catalogue, we find he gives us these directions:—"To grow this very handsome tribe of plants to perfection, the bulbs should be planted in a light sandy soil; if very poor, a little leaf-mould may be added, but no dung." A perfect lady flower, and one in which a perfect lady can take real *hard-working* pleasure, no-

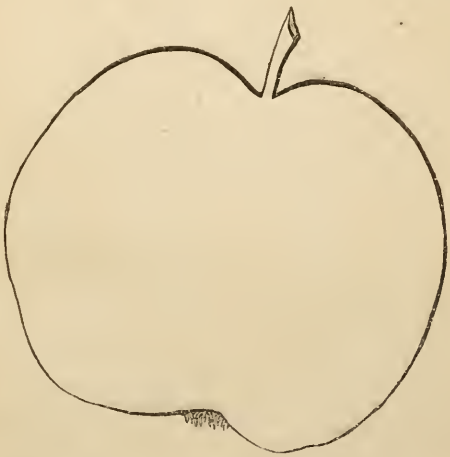
thing unpleasant, delicate fingers never soiled, and then what a gem when cut. "Do you know they will last a fortnight in a glass?" "Oh yes, madam; and if you are fearful the old enemy, Jack Frost, will touch your favourite, that is the best way to bloom it late in the season." They throw up three spikes, or perhaps we should say, three gladioli of flowers; and if allowed to seed, the seeds can be made to produce flowering plants in a year's time. Gladioli will certainly make their

way in the world; and in order that our readers may be able to arrive at the standard of perfection in form—colour is a matter of taste—we give a sketch of a perfect gladiolus. On carefully examining the cut, it will be seen that the outside petals form a triangle one way, and the inside petals a triangle reversed. Now, what kind of triangle should it be? An equilateral, or, as the mathematicians explain, one that has all its sides equal? The inside triangle must be similar to the outside. This is not a very learned definition, but we hope it is a plain one. The petals should be close, and nicely fill up the figure, having something of the cup form. The colours are very various; in fact, the shades are most beautifully blended one into the other, and if planted with the desire to effect a rainbow, no flower can answer better.

We give the names of the six best reds, or dark, and of the six best whites, or light straw, shown by Mr. Standish, at the Crystal Palace; though we know, since then, he has bloomed some more seedlings that are finer than any yet shown:—*Red:* John Standish, Garibaldi, Samuel Waymouth, Dr. Blount, Herr Rosenburg, Harlequin. *White:* Mrs. Standish, Duchess of Sutherland, Diana, Minerva, Mrs. Ridley Hunter, the Belle of Bagshot, and one that called forth much praise and titter, a pretty, little, wee thing, "Our Baby." These are all seedlings, and will not be "let out" till next year.

THE NEW APPLE, BARON WARD.

This excellent apple was raised by Mr. Samuel Bradley, the raiser of Oscar Strawberry, and is now being sent out by Messrs. R. Bradley and Son, Halam Nursery, Southwell, Notts. We have been supplied with some fruits for the purpose of description, and have added the variety to our collection as one of the best kitchen apples hitherto produced. The



fruit is below medium size, slightly ovate, stalk short, and placed obliquely; eye open, slightly depressed, skin smooth, shining, and when ripe, of a deep uniform yellow, with occasionally a little red on the sunny side, near the eye. The fruit is heavy for its size, and the flesh dense, tender, crisp, and juicy. Though strictly a culinary apple, it will be acceptable for dessert, owing to its agreeable acidity and slight Ribstone flavour when quite ripe, which is not before January. It is one of the best keepers, and may be had in use till June.

The only objection we can urge against it is its small size, but this is more than compensated by its other good qualities. The tree bears a beautiful and ample foliage, the leaves deep green on the upper side, and rather silvery beneath. The habit is upright and compact, the wood hard and healthy, and it forms fruitful spurs at a very early age. We believe it will make close, upright bushes as readily as any apple in cultivation.

Price:—Maiden trees, 5*s.*; standards, 7*s.* 6*d.*

PROFITABLE GARDENING.

CHAPTER XVIII.—CULTURE OF CELERY.

We come now to the final planting, and must revert to what we said at starting, as to the necessity of a fat soil and abundance of moisture. But let there be no mistake in this matter. A soil soddened with stagnant wet will produce celery, but it will be far inferior to that grown in well drained land, under other equally favourable circumstances. And as to celery being a gross feeder, it will grow in dung only; but an excess of manure is not only a waste, but the crop is not so good as that grown in a soil with which the manure, three parts rotted at least, has been well chopped up and

incorporated. Therefore, in feeding liberally, follow the same rules as have been already set forth in these papers as to the growth of cauliflowers, brocoli, and other high-class vegetables. Keep the land in good tilth, promote the filtration from it of heavy rains by proper drainage, and be not sparing of labour in working it freely, and manuring it without stint, but with judgment.

Suppose we are about to put out a batch of young plants for the first crop, I should caution you at once not to be in haste. Unless they lift with good bunches of fibrous roots, they had better wait a week or ten days to strengthen; it will only check them to no purpose to plant before they are in a fit state to strike out at once into their well-manured and well-pulverized soil. This lot should be put into trenches ten inches deep, as they will have to battle with the hottest of the hot weather. Cut the trenches, and throw the soil up regularly on each side, then fork in plenty of good dung, and break the soil well all along the trench. If the weather is dry, plant at sunset, and water well at once; but showery weather, while the soil is still in a good workable condition, is preferable. Lift the plants with a trowel, place them in a hand-basket, and plant them along the centres of the trenches true to the line, seven inches apart, removing, at the time of planting, any broken or decayed leaves, by a clean cut to the base, but on no account cut the healthy leaves, for the practice is mischievous. These early plantings are generally accommodated to the crops that have gone before, and the celery trenches take the place of spring cabbage, early peas, etc., with, perhaps, a row of cabbage or brocoli between every two trenches. If the season proves a dry one, abundant watering will do wonders for these rows, and the water may be poured into the trenches at night, so as to help the plants before the hot sun comes upon them again. If, at every other watering, a strong liquid can be made by steeping sheep's or goats' dung in the water, a peck of fresh dung to every five-and-twenty gallons, the growth will be rapid, and the produce succulent and fine. There are two accidents possible in the progress of the plants to maturity—the stems may come hollow, or the plants may bolt, that is, run into flower. Hollow stems are generally the result of overfeeding, pushing the growth too fast, and is most likely to happen with plants that have been ill-used in the seed-bed, or have been taken from the pricked-out plots before having acquired a proper degree of strength. Bolting is generally the result of drought, or a sudden check. If the plants are injured in taking up, if exposed to the sun for any length of time in the operation of planting, if left to fight it out without water in dry weather immediately after planting, or if starved through insufficiency of manure, bolting is pretty sure to happen, and if it does not happen, the plants will be stunted and stringy, and the culture might as well not have been attempted at all. Celery should have no severe check from the day the seed is committed to the soil till its growth is fully completed. In poor soils, thinly manured, a hot, dry season will cause the greater part of the crop to bolt, and, generally, there is no help for it, for in such places both water and manure are generally scarce. But the mention of the fact, in connection with its predisposing circumstances, will suffice to encourage the cultivator to make the best of his position in the management of this favourite vegetable.

While this first planting is in progress, others will come on, and the planting of these will be in the same fashion; but the trenches must be shallower and shallower as the season proceeds, so that that which is le to stand the winter must be put out on level ground. Fond as it is of moisture, it is one of the first things to rot in winter if caught by frost in deep trenches that hold the rains. There is yet another system of planting, and that is in beds. Mark out a bed any length, and four and a-half feet wide. Lower it eighteen inches, placing the soil removed in a bank on each side. Manure the bed well and thoroughly mix the manure with the soil by the fork first, and then with the

spade. There is nothing gained by shirking the preparatory work. Plant in this bed in rows *across it*, the rows one foot apart, the plants six inches apart in the rows. Water them in, and if the weather is dry, water every evening for a week, and two or three days after that go over the bed with a hoe and break the surface. This will give them a good start, and when the ground gets hard again, hoe as before, and they will endure drought much better than if the soil is allowed to get indurated and weedy, for the night dews will help them, and every shower go direct to their roots. If I have soot to spare, during the summer I take care to give the celery one or two dustings with it, not on the soil merely, but over the foliage as well, and the best time is when the leaves are moist with dew. I think it does something to check the ravages of the fly, and I am certain it does much to fertilize, for the next shower washes it down to the roots, and it carries with it a large amount of ammoniacal gases for direct benefit of the plants.

And now for the earthing up. This must be done in no haste. If a few heads are wanted very early, they may be earthed up before the rest, when grown to a size such as will be fit for table; but as earthing checks the growth, it is best to defer it as long as growth proceeds favourably. This is the principal mistake of gardeners in regard to celery; they earth up too soon and too much, and in the endeavour to save time and labour, they lose in weight and size, and general excellence of the crop. To blanch celery—and that is the only object of earthing twenty-one days are sufficient; so say that you want to draw for use in three weeks' time, then you must begin to mould up at once; but to give it more than a month from the first earthing up, is a loss in the substance of the crop. It must be done with care. Instead of chopping the soil down and patting it against the plants with a spade, use a trowel, and while drawing the earth round the plant with the right hand, hold the leaves together, as low down as possible, so that not a particle of soil can get into the heart. The next earthing may be done by a chop down with the spade, but it is best to finish off with the trowel, so as to keep the stems close together, and prevent the entrance of grit between them. Mould it up very little at a time, and as the soil rises along the rows, smooth it off neatly to throw off water, for the plants will want less and less as they complete their growth, and the rains will be sufficient without further watering. In earthing up those planted in beds, use a pair of thin boards as long as the bed is wide, and about nine inches wide. Two persons must operate together, one on each side of the bed, holding the boards on edge between two rows of plants. One of the parties drives a spade or fork down outside each board at his own end, and fills in between them with finely broken soil, about three inches deep. The boards can then be lifted carefully, and removed to the next two rows of plants, and so on till the earthing is completed. The operation is repeated once a week till the plants are covered within an inch or so of the crown, and then not another particle of earth is to be added.

It will be seen how convenient it is to protect celery in beds, by means of mats or litter, during frosty weather, compared with that in separate trenches. A mild winter may do no harm to the crop that has been planted on the level, and earthed up above that, but a sharp frost after heavy rain generally causes the heads to rot quite through, or at least damages them considerably, so that before going to table a good deal will have to be cut away. Therefore, let there be some protection made to the piece that is to stand the winter: any rough contrivance of hoops or laths will answer, if so arranged that mats or thatched hurdles can be laid on and removed as required. It is also well to take up the best and handsomest before hard weather, and pack it in a dry shed in sand ready for use; it will keep good in this way, if safe from frost, for six weeks or more.

Besides the liability to bolting and stunting, celery has one specific enemy in the shape of the celery-fly, which appears in spring, lays its eggs on the leaves of the celery in June, and again in September, which eggs soon become ravenous grubs, which eat away the

pulp of the leaves, and greatly distress the plants. There are two ways of meeting this enemy. One is, to examine the crop occasionally, and pick off every withered leaf, destroying, at the same time, every grub found on them. Another is to stretch a string smeared with bird-lime along each trench as soon as planted, which will entrap a good many of the flies as they come to deposit their eggs. This pest is one of the most beautiful of the two-winged flies, and is known to entomologists as *Tephritis onopordinis*. The length of the insect is one-sixth of an inch; in breadth, when the wings are expanded, half an inch; the body varies from rusty brown to shining black, head buff, legs yellow, wings black, marked with pale spots, eyes green. It may be seen hovering over large-leaved shrubs and dry woodwork in the sunshine of May and June. The grubs that escape destruction on the leaves of the celery retire to the earth for the winter, and that is sufficient reason for turning up to the frost the plot on which the crop has been grown as soon as it is cleared off. What the frost does not kill, the birds will devour, and the industrious gardener will have his reward.

One word more on the produce of giant salary for exhibitions. Thorough good culture, according to the instructions above given, will produce fine heads, if the seed was true in the first instance; but there is another method of encouraging the plant to take up more nutriment than it would do under ordinary circumstances. Sow in a fine rich compost, prick off into a gentle hot-bed, and when the plants are ready to lift, prepare a trench for them by taking out the soil thirty inches deep and two feet wide. In the trench lay eighteen inches depth of hot dung, on that a mixture of finely chopped loam and rotten dung six inches deep, which will bring the trench to within six inches of the surface. Plant one row of the best plants, choosing them not for height but for substance—those that are thickest at the collar, and not at all drawn. Put them one foot apart, crumble fine stuff on their roots in filling in, and make them firm. Water with tepid water, and hoop them over with mats or canvas, to keep the sun from them for two or three days; then remove the awning, and just scratch the surface of the trench with a hoe, and give a thin sprinkling of soot. Water as needful, and at every watering give plenty. A fortnight after planting, begin with manure water, weak at first, and gradually stronger, and never use it twice in succession, but always give one watering with rain-water between every two doses of liquid manure. Defer earthing as long as possible, and give a tremendous soaking with water before you begin.

The first earthing should be done a month before the day of the show, the second a week from the first; a week after that another, and the last three days afterwards. This time bank it up pretty firm and close, and the exclusion of light will blanch it thoroughly by the time it is to be taken up for exhibition. This large celery makes a fine dish boiled like asparagus. Cut into six-inch lengths, tie in bundles, and boil in salt and water till quite tender. It usually takes from twenty minutes to half an hour, and is then to be taken up, drained dry, and served on toast with melted butter. Gardeners who take pride in the culture of celery, often complain that their labour is in great part lost; let them persuade the cook to send it up asparagus fashion, and that trouble will be at an end. To curl celery for table, first soak it in spring water with a little salt for twenty minutes, then run the point of a knife along the back of each stalk, and put it into the glass, and it will curl to perfection.

REMINDERS FOR DECEMBER.

Auriculas.—To be kept clean, and to have not a drop more water than will just keep them alive.

Azaleas.—To bloom early, to have very moderate bottom-heat and be syringed daily. Those still at rest to have a rather dry air.

Bulbs.—To be planted at once if any

remain out. Use plenty of sand about them to prevent rotting, as the ground is very wet and cold.

Camellias will not stand so much heat as azaleas. As you can get time clean the foliage of specimen plants.

Carnations in pits to have as much air as possible, and little or no water. On fine mornings take the lights off. Keep them very clean.

Cinerarias will want plenty of air to prevent mildew. Choose bright mornings to water, and get their leaves dry before shutting-up. See that specimen plants are in good shape, and peg out the leaves if necessary.

Forcing.—Keep asparagus going for succession. Rhubarb, seakale, and French beans will soon be in request. Lay a few picked tubers of early potatoes on a warm flue to sprout for planting over dung-heat, and get a bed or two ready.

Greenhouse.—To be kept as dry and airy as possible; do not be in haste to use fires.

Hardy Fruits may still be planted, but if they cannot be got in quickly, wait till February or March, as after the middle of December there is a little risk till after the turn of the year. Unnail wall-trees, and wash the walls with cement and sulphur vivum, to which add a little Spanish red for colouring. Orchard-house trees may be pruned at once, and washed with a solution of eight ounces of Gishurst to a gallon of soft water.

Kitchen Garden crops to be kept free of dead leaves, and the hoe to be used between during mild weather. Brocoli may be heeled over to the north. Early peas and Mazagan beans may be sown. Warm slopes, not over-rich, will be the best places.

Pelargoniums to be kept as much as possible without fire, but to dry the house it may be useful occasionally. The fancies need warmth the most.

Vines, breaking, to have a gradual rise of temperature, so as to average 65° by day and 60° at night, when they come into bloom. Too sudden a rise will make long joints and weakly growth, independent of the injury to the crop. A warm, dry border will do as much as the best management of the temperature of the house.

Bedding Plants should be looked over occasionally, and the pits and frames emptied and filled again to clear away all dead leaves and insure a good airing. Amateurs have many losses through lack of attention to this work, and mildew makes havoc, unseen, while there appears to be nothing the matter. Short of actual frost, the more air the better, and if water is wanted, give a good soaking on a fine morning when the barometer is high and steady, so that the balls may get a little dry again before change of weather to wet or frost.

TO CORRESPONDENTS.

THE GARDEN ORACLE, 1861.

Some of our friends were disappointed in not getting copies of the ORACLE at the first issue, which we regret. This was partly owing to the orders for them not being given till the last moment. The publishers have now a large supply, and we advise our readers to make early application for them through the booksellers, as we do not contemplate reprinting. The greatest care has been taken in the preparation of the lists, and we believe it contains description of every novelty of merit sent out during 1860, and to be sent out in 1861, as far as trade projects are at present determined on. The form of these lists will render the ORACLE a valuable work of reference hereafter, especially in the tracing out the history of particular subjects, such as roses, chrysanthemums, dahlias, etc., at the same time enabling every grower of plants to take a bird's-eye view of the progress of improvement among the particular class of subjects in which he is interested. Respecting the list of 365 herbaceous plants, we hope to find space for a few remarks in these pages shortly.

THE "FLORAL WORLD," Vol. III., handsomely bound, price 6*s.*, will be ready about the 15th of this month.

*** The January Number of the FLORAL WORLD will have to be printed a little earlier than usual, and we shall be glad if correspondents will let us have their communications in good time.

TIFFANY-HOUSES, etc.—*G. B. C.*—If these are built like wicker baskets, of course they will be blown away. We have plainly said that they will only do for certain purposes; but you appear to have read very little on the subject; so, at least, we gather from your remark as to its being "reported that tiffany-houses are to be recommended." The fact is, they *have been* recommended in the FLORAL WORLD by no less an authority than Mr. Standish, who builds them so that they do not blow to rags. We cannot but regret you should travel from Kensington to Newington only to find that the show was postponed. You must not blame us for it; no, nor the growers at Newington. The show was fixed for the 9th, and altered after our November number was printed. Allow us to remind you that the National Rose Show was postponed from the 30th of June to the 12th of July after many exhibitors had disbudded. The Sydenham show was postponed a fortnight, the Brixton a month, and many of the provincial societies have had to do the same thing. Do not blame the people, blame the weather, which has upset more momentous projects than flower-shows this year. You do not say what bulbs they are you have in the box; if hyacinths, crocuses, or tulips, cover with sand till they get

well rooted, and then remove it with the hand to prevent the tops being blanched. Bulbs planted in boxes must not be exposed to severe weather, or the frost will get at the roots and kill them. Those in pots should be got into frames, or a shelf near the glass in the greenhouse, before frost sets in, or they may share a like fate. No plant in a pot or box can endure frost so well as one in the ground. Your query about Waltonian lamps we do not understand.

TEA ROSES IN PEACH-HOUSE.—*J. R. C. T.*—Just the very place for tea-roses, because to keep them dry when the peaches are in bloom will do them no harm, and to syringe them well when in growth, will be quite sufficient protection against red spider, and no harm to the peaches. They will do better in a border than in pots.

SPECIMEN SHRUBS FOR LAWNS.—*J. Fowkes.*—*Deciduous:* Spiræa ariafolia, Ribes sanguineum, Paulownia imperialis, Philadelphus Gordonianus, New Double Scarlet Thorn, Cratægus odoratissima, Pyrus spectabilis, Berberis vulgaris, fol. purp., and Syringa Josikæa. *Evergreens:* Garrya elliptica, Arbutus prucera, Aucuba japonica, Berberis aquifolium and Japonica, Viburnum tinus strictum, and Phillyrea latifolia. Sow the grass about the end of February, when the ground is dry.

ALSTRÆMERIAS, ETC.—*P. H. G.*—Keep the seedlings growing slowly all winter. If dried off they may shrivel and perish. Any cool place, safe from frost, will do, and only just enough water to keep them alive. Seedling tritomas the same. In March, or early in April, shake them out, and pot in small pots in rich sandy soil, and put them in your Waltonian case for a week or ten days, and in May turn them out into the open ground to flower. Gloxinias, struck from leaves, must be kept in their pots all winter, without a drop of water, safe from frost, and at a temperature never lower than 45°.

INSECTS.—*A. B. Gretton.*—Your enemies are the pupæ of the pear-tree saw-fly, and our first advice must be repeated, that the only remedy is to be found in diligently searching for them and destroying them. Probably you put larvæ into the box, and the change to pupæ took place during the transit to us. The soil about the roots of the trees is probably pretty full of them, and if you pare and burn the top stratum six inches deep, you will probably get rid of the greater part of them, and it will do the trees good to replace that with six inches of fresh soil.—*J. Solly.*—The *Testacella* is by no means so rare as is supposed. In digging damp loams it is common to turn up some ill-looking, buff-coloured creatures an inch long, sticky to the touch, which resent the disturbance only by curling themselves up in a lazy, helpless manner. On examining one of these, which is generally taken for the grub of one of the large beetles, it will be found to be a true slug, with a small flat shell on its rear about the size of a parsnip seed. This is the creature you are on the search for, and if you do not find it in the course of the next season, send us your address and a postage-stamp, and we will forward you a few specimens, for we seldom open the ground without finding it. The Testacella is not a native of this country, but was introduced from Madeira, or the Azores, and feeds on earth worms, and is a true mollusc, and consequently not an insect at all.

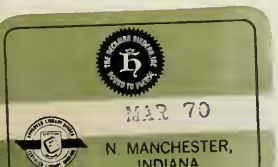
AQUARIA.—*Miss Le P.*—The original difficulties have all been overcome, and marine and fresh-water animals may be preserved in their respective vessels, within certain limits as to selection, with as much certainty as we can preserve pigeons and ducks. In fresh-water vessels there is no need for river plants at all, nor for snails to eat off the confervæ, because the production of oxygen can be assured by a proper modification of the light, on the principles of "Natural Management," set forth only in the "Book of the Aquarium," which has rendered all other works obsolete in respect to details of management. Gosse's "History of Marine Zoophytes" is a masterly production, and Sowerby's book is safe, though superficial; but in regard to management, the "Book of the Aquarium" is not only the best book, but the only one worthy of attention, and it explodes all the fallacies that have been built up by authors who wrote by guess-work and not by experience.

HERBACEOUS BEDS.—*Constant Subscriber.*—We have a strong objection to suggest selections for beds, because our taste may be very different to yours; and besides, what are called herbaceous plants are not the best things for large beds, because their bloom is not continuous, and that is where the proper bedders beat them. The showiest subjects for you are Delphinium formosum, Phloxes, Lychnis Haageana, gloxinia flowered foxgloves, Rudbeckias, Œnothera macrocarpa and serotina, Salvia chamædrifolia, Dielytra spectabilis, double columbines, Oriental Poppy, Dianthus Heddewigi, Epilobium angustifolium, Rumex sanguinea, Inula glandulosa, Aster fulvis, Lysimachia thyrsiflora, Helianthus linearis, campanulas, veronicas, wallflowers, cloves, etc. A bed fifteen feet in diameter might be made very gay with such plants, but generally the best place for them is in mixed borders.

HERBACEOUS PEONIES.—*A. B.*—Plant them so that the plump buds, which are to give leaves and bloom next season, are an inch below the surface. This will give the tubers a depth of six to nine inches. Be careful not to injure these buds in taking up, for the next crop of blossoms is wrapped up inside them. Your other notes are filed for the present.

WANTS A PLACE.—We should be glad to find a place for a young man whom we can recommend for ability and character. He wants a single-handed place, where he will have a chance of improvement and opportunities for increasing his knowledge of plants. He was in his last place twelve years, and left only because of the death of his employer. He is familiar with the whole routine of ordinary garden work, and possesses considerable taste in planting and arranging colours.

TREE ONION.—Several correspondents have inquired where these can be obtained. We are really unable to reply. We have saved so few this season, that we cannot offer them as gifts. Let all who want them inquire of their several seedsmen, and the inquiries may bring them to light, for there are plenty of them *somewhere*. Any who have a stock for sale would do well to make the fact known to us.

ROOTS, ETC.—"Ornamental Bulbous and Tuberous Plants, with Hints for their Cultivation. E. G. Henderson and Sons."—The wrapper does not inform us at what price this is sold, but we suppose it to be moderate. It is an excellent descriptive list, containing above a hundred genera, and under each practical hints for the selection of species for decorative purposes, and very intelligible and very practical instructions on culture. "Priced Descriptive Catalogue of Conifers, Ornamental Trees, Evergreens, etc., cultivated for sale by John Cranston, King's Acre, Hereford." The praise we have bestowed on Mr. Cranston's rose catalogue might reasonably be shared by this list of useful subjects, which is arranged alphabetically, and will enable any amateur to select without difficulty, and any botanical collector to see at a glance, what species he should order to complete his groups.

3 5185 00292 4866